

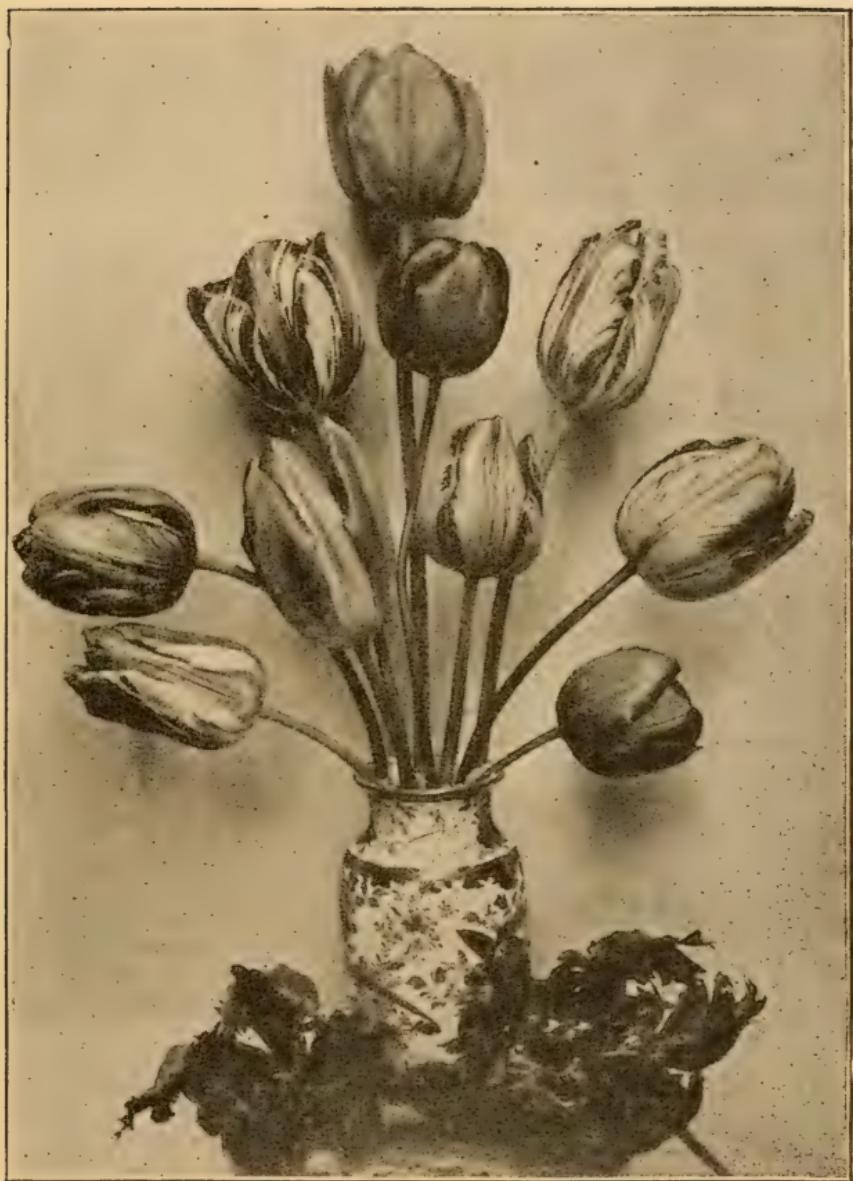




HOUSE PLANTS

AND

How To Succeed With Them



TULIPS

HOUSE PLANTS

AND

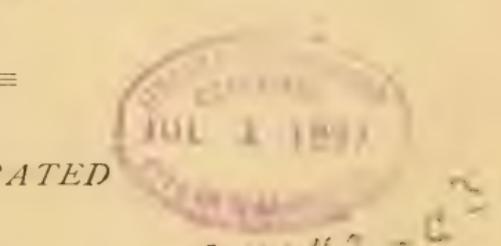
HOW TO SUCCEED WITH THEM.

A PRACTICAL HANDBOOK

BY

LIZZIE PAGE HILLHOUSE

ILLUSTRATED



“Non ignara mali, miseris succurrere disco”—*Virgil*

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CONTENTS

CHAPTER	PAGE
INTRODUCTION	v
I BULBS	I
II CACTI	21
III FERNS	26
IV FLOWERING PLANTS	35
V FOLIAGE PLANTS	79
VI LILIES	100
VII PALMS	112
VIII SHRUBS	131
IX VINES, CREEPERS AND BASKET PLANTS .	171
X MISCELLANEOUS	184
XI PROPAGATION OF PLANTS	197
XII GENERAL REMARKS	203
INDEX	211

INTRODUCTION



AVING a passionate love of Nature in all its phases, everything that grows, no matter how humble, has an attraction for me. With the first mild days that presage advancing spring, when the sap, which is the life-blood of the plant world, begins to wake from its winter lethargy; when it first creeps, then, as the sun grows more caressing, bounds upward through trunk and branch, swelling each tiny dormant bud into bursting glad-some life: so my blood (the sap of human existence) dances with glad anticipation of the coming beauty that will enfold the earth.

Yet it seems to me but a little while ere all these forms of wondrous and sublime loveliness, with which I delighted my very soul, begin to fade, and, alas! to die. Then my heart is sad and burdened with a wild desire to shield, protect, and save them

from death, by bringing one and all into shelter from winter's storms and icy blasts.

I wonder how many others have the same longing, and, with but little knowledge of the frail beauties' wants, extend to them their protecting care, beg them to share the gloom of winter, and brighten it with their sweet presence.

Just here our woes begin. We tenderly install the flowers in most favorable situations; then stand gazing with fond eyes, and proudly beating hearts at having rescued them from an untimely grave. We can scarce contain our joy at the prospect of their bright campanionship, imagining that we have cheated hoary winter out of half its dullness. For a few days all goes smilingly; then we feel a thrill of alarm. Our gentle friends have a depressed appearance; some indeed look quite crestfallen, and are undeniably hanging their pretty heads.

We are panic stricken; what shall we do to save them? Are they going to leave us after all our thought and care?

We inquire wildly of everyone we meet, "What is the matter with them? What *can*, or *shall* we do?"

Then we read books, catalogues, pamphlets, all the printed lore we can find; but it is all in vain. Nothing enlightens us, or meets our case, showing us how to prolong these precious lives.

Many of us have been thus defrauded in our expectations, from having too little knowledge, and not knowing where to seek it. I have bought book

after book in a vain search, only to find them all a delusion and a snare—so technical, or ambiguous, as to be far beyond my reach or comprehension. Therefore, for the benefit of fellow sufferers, I have determined to put down what little I have found out through bitter experience; knowing that at least it will be practical and true, as far as it goes.

I will try to tell in plain English what house plants have been successful with me, when there were no congenial accommodations; and the poor things were forced to adapt themselves to a poisonous atmosphere of gas, dust, and dry furnace heat. Notwithstanding these drawbacks, I have succeeded in coaxing many of them to change their habitat, and submit, for a while, to circumstances (as many of us are forced to do), until warm days and glad sunshine returned, and they and I could revel in its beams.

I have had many failures with other plants, which, in spite of all my care, would fade away; and I could only gaze with saddened, moistened eyes while they sank slowly but surely to an early grave.

Did you ever plant a tiny seed and watch anxiously for its fruition?

Perchance after a long and steady downpour, when the sun bursts forth in all its regal power, you steal quickly out to see what has become of your buried hope—to find it, perhaps, just breaking through the sodden ground. How cautiously it peeps through the edges of its protecting shell! With a sly look around, suddenly it throws aside all

timidity; saucily it erects its head, boldly proclaiming to all the world that it is born! What a marvel it is! And what a pleasure to watch its course, from the time when it escapes from the womb of mother earth, until it returns again, to add its mite to her enrichment for the support of future generations.

How strange to think that these tiny seeds have been developing, multiplying, renewing themselves for untold decades—just as we human beings have done. Springing up as things of joy and beauty, to please our eyes, and brighten our lives; having performed their mission, they silently fade away to make room for their progeny—even as we step down and out into the unknown, while our places are filled by the countless thousands that are crowding on, ever on, behind us. Such is life—an everlasting renewal!

Yet, when we lose some pet flower, though many, perhaps more beautiful, are crowding in to take its place, they can never quite fill it. There always will be a void, a sense of something wanting: a subtle aroma of the past will ever linger round the present; and we can but sigh over the memory of joys that have been lost in departed beauties.

It is very saddening, when some cherished shrub or vine slowly fades away before our eyes, while we are absolutely helpless to stay its flight. To those who have thus suffered, I write, hoping that I may give them hope; and I shall endeavor to show how they might have saved those that are gone, and how

they can preserve or prolong the life of others that may fall to their loving ministrations.

Sometimes the simplest things will save them.

Water and large pots are answerable for the fate of many a season's beauties. Water is good, and a bath delicious for opening all their pores and cleansing them of their foes. But they do not wish to be forced to live in a bath-tub.

I would impress it upon you to use good judgment in both of these particulars; and you *must* learn to judge for yourself. It is impossible to give an exact rule that will meet every case: as conditions may entirely disagree, and what would be just right at one time might be all wrong at another.

If the temperature of your house is at seventy degrees Fahrenheit, or over, the potted earth will soon become baked. This you must look out for.

Some plants can do without water for a long time, and thrive; while others require a constant supply, and will die without it.

You must know the needs of each individual, in order to succeed with plants.

HOUSE PLANTS

—AND—

HOW TO SUCCEED WITH THEM



CHAPTER I

BULBS

Amaryllis

Hyacinthus

Ornithogalum

Crocus

Narcissus

Oxalis

Gladiolus

Nerines

Tulips

AMARYLLIS

HESE are half hardy or hardy, deciduous, bulbous plants of wondrous beauty. They will grow in popular favor for window decoration as they become better known. Their large flowers are unsurpassed for brilliant gorgeousness of coloring.

Cover the bulb to the crown, in good-sized pots, filled with a compost of good soil, well rotted manure, and some sharp sand or fine gravel to keep the mass porous. Give very little water until the leaves show well ; then increase the quantity ; also give a little manure water during the flowering period. Let them have plenty of light, and air overhead when feasible.

They need rest to thrive, as it is not possible to keep up the work of blooming without it.

Hippeastrums (from *hippus*, a knight, and *astron*, a star), belong to this order, Amaryllideæ. They are a large genus of beautiful hybrids, which have crossed and intercrossed, producing magnificent specimens, generally known as Amaryllis, and so catalogued by most florists. Under this heading we find also :

Amaryllis Equestre, the Barbadoes Lily, a very lovely variety.

Amaryllis Johnsoni, a profuse bloomer, rather hardy, a robust grower, with red and white striped flowers.



AMARYLLIS

Amaryllis Belladonna, violet and white.

Amaryllis Formosissima, crimson.

Amaryllis Vittata, red and white striped.

Also many others, too numerous to name here. Crinums, Nerines, Sprekelias, Sternbergias, Bruns-

vigias, Vallotas, Zephyranthes, all belong to this family or order.

CROCUS

A genus of hardy bulbous plants, with a world-wide reputation. Most persons have either seen them growing, or grown them themselves. Their cultivation is so remarkably easy, that it is perhaps superfluous to give any directions in regard to them; but there possibly may be some to whom a few suggestions, and a description of their habits, will be helpful.

Many of us have hailed their appearance, with the Snowdrops, as the first glad harbingers of spring. All, however, may not know that several of the species bloom in autumn, as readily as others do in spring.

Crocuses, if planted in the ground outside in a well-drained location, will remain for years. They multiply indefinitely, until they become too thick, and must be taken up and separated.

Though most of the family are perfectly hardy, I find that they appreciate a slight covering in the winter.

It is almost impossible to prevent separate varieties from becoming mixed, if they are very near one another. The corms constantly forming on healthy plants soon cover a large space.

They will grow in the midst of grass; and, if you wish to dot your lawn with any one species and color, or a variety of colors—instead of having it starred with Dandelions, as many are—you have only to dig in autumn tiny holes, about three or four inches deep; drop in your Crocus corm; cover up, and

press down the soil. The following spring you will have a brilliant-looking lawn, if they have been closely planted; if they have not, a few years will remedy any deficiency. Mowing the grass will seldom if ever hurt them. The only trouble is that they do not last long enough. By the time, however, that they are about to disappear, something



CROCUS

else is ready to take their place; so prodigal is Nature with her wealth of beauty.

Crocuses may be grown in pots, or boxes, as suggested for other bulbous plants. They should be left covered out-of-doors until these same pots or boxes are well filled with roots. Then bring them into a cool room, that is, one whose temperature is a little warmer than the outside air. Water carefully, and they will soon come into bloom. Be sure you

do not take them into a hot, dry room, or you will be disappointed in all your expectations.

Many varieties of *Crocus* will grow in water, like *Hyacinths*. Florists have for them variously shaped receptacles filled with holes, through which the plants protrude, making the forms of hedgehogs, bee-hives, and other things. The plants present a very pretty and cheerful appearance when in full bloom.

The *Crocus* family is too large a genus to be described individually, there being some seventy species spread over various parts of the globe. But a selection of varieties may be made readily from any responsible florist's catalogue of bulbs for autumn planting.

They come in numerous shades of blue, white, purple, yellow, and violet. A closely planted box or pot of harmonizing colors is a pleasant sight.

GLADIOLUS

Corn Flag. A genus of many species, though the originals have been hybridized almost out of existence. The improvement, however, is decidedly marked, and we owe our thanks to the hybridizers for a host of new and beautiful varieties.

Gladiolus may be grown successfully in the house, in pots, for fall and spring blooming.

When growing outside in the ground during summer, they need a rich soil, a sunny location, and plenty of water in hot weather. Each plant will have to be staked before blooming, or it may be bruised and broken by high winds and storms.

Do not mix any fresh manure in your potting soil; it will rot the corms if it comes in direct contact with them.

The large-flowering Gladioli do well in pots for fall blooming, if planted for succession from April until the last of June. The term "for succession," applied to Gladioli, refers to planting about once every fortnight, in order that the flowers may appear alter-



GLADIOLUS

nately, new ones coming as the old ones fade. In planting Hyacinths for succession, the intervals are five or six weeks, as will be seen farther on. A single large Gladiolus corm is sufficient for a seven-inch pot, which should be filled with very rich soil, and placed where the plant will receive plenty of air.

Gladioli Colvillei are also excellent in pots, and can be grown so as to bloom in April or May. If you have a cold frame you will find no difficulty, as they are easily raised in one; if not, you must exercise your ingenuity and devise other means of growing them, such as I have elsewhere described, particularly in regard to Hyacinths.

The last mentioned variety of *Gladiolus* has small corms; as many as five of them may be planted in a six-inch pot; their roots do not take up much room. Prepare them in the fall, and cover up out-of-doors, as suggested for other bulbs.

If in a frame, when roots are formed and they begin growing, you can take in a pot or two as you need them. They should have at least fifty-five degrees of heat. Water gradually; and give air overhead.

If you have started with good strong corms, each one will give you two or more scapes. When these make their appearance a little more heat will be required, with your lightest, sunniest situation. And give plenty of water at the roots.

Should you not be the happy owner of a cold frame, you will have to bring your pots inside before severe weather; under these circumstances you must keep them covered up in the dark, in some cool place, until you are ready for them to bloom.

Gladiolus Recurvus is a most exquisitely scented variety, with yellow flowers, thickly studded with blue; it has a lovely violet-like odor.

HYACINTHUS

By good management in planting for a succession, the bloom of Hyacinths may be enjoyed during most of the winter, and until near the end of May.

They may be grown singly, or two or more together in pots of sufficient size; you can have them also in boxes for your window.

If you plant in boxes or pots, as you may prefer, place them in a cold dark room or cellar; or sink them into the ground outside, and cover them with leaves, or something else to prevent freezing. They may be left until you are ready for them to flower. You can bring the bulbs into strong heat as they are needed, and soon force them into bloom.

The large-flowered Hyacinths should be potted singly, in five or six-inch pots, according to the size of the bulb. Fill your pots lightly with good loam and manure in equal parts, and have sharp sand well mixed through it. Press the bulb firmly into the mixture and cover up.

If you wish a succession, begin to plant during the latter part of August and continue to the last of November, with five or six weeks between the plantings.

Before bringing the bulbs into heat they must be well rooted, with the crowns beginning to expand. This they are supposed to do when covered up in the dark; all the bulbous plants require to rest in seclusion and darkness.

When they are brought inside they must still be kept in the dark, but as warm as possible until they "break ground," as an old farmer would say. Then they may have a sunny window, and plenty of water at all times. When the lovely flowers come, they will want something to strengthen them and increase their size; you should give manure water.

If you use boxes they need not be over six inches deep. Have the soil very rich, perfectly drained; and

let no fresh manure come in contact with your bulbs, as it will burn and cause them to rot. You must watch them; and, should they become infested with Green Fly or Aphis, syringe or dip them in luke-warm water.



HYACINTHS

Hyacinths may also be grown in glasses, and for this purpose the single varieties are best. There are glasses made especially to prevent the bulb from sinking too deeply into the water.

Fill the glasses with rain water, and let this contain a little charcoal to keep it sweet. Wind some sphagnum moss about the bulb, and place it in the

glass so that the bottom of the bulb will just touch the water. Then put away in some cool dark place until it puts forth roots, when you can bring it to the light.

As the heat of a room causes the water in the glass to evaporate, add more; and your bulbs will need no further attention.

In the open ground Hyacinths require but little care and make a very brilliant showing. If given a rich light soil, in a bright sunny location; and if well covered in the late fall with leaves, straw, or old manure, to keep them warm and comfortable during our severe winter; you will find them pushing their heads through this protecting mantle so early in the spring that sometimes they will get nipped by a belated frost for their forwardness.

After they have finished blooming the bulbs should be taken up with a garden fork, dried in the shade, and put away, to be planted again early in the fall. They may give you another crop of flowers; but the bloom will not be so fine or perfect as that of the first season. They always run out and deteriorate after the first year.

Pick out hard, heavy bulbs in selecting; they, as a rule, produce the finest heads of bloom.

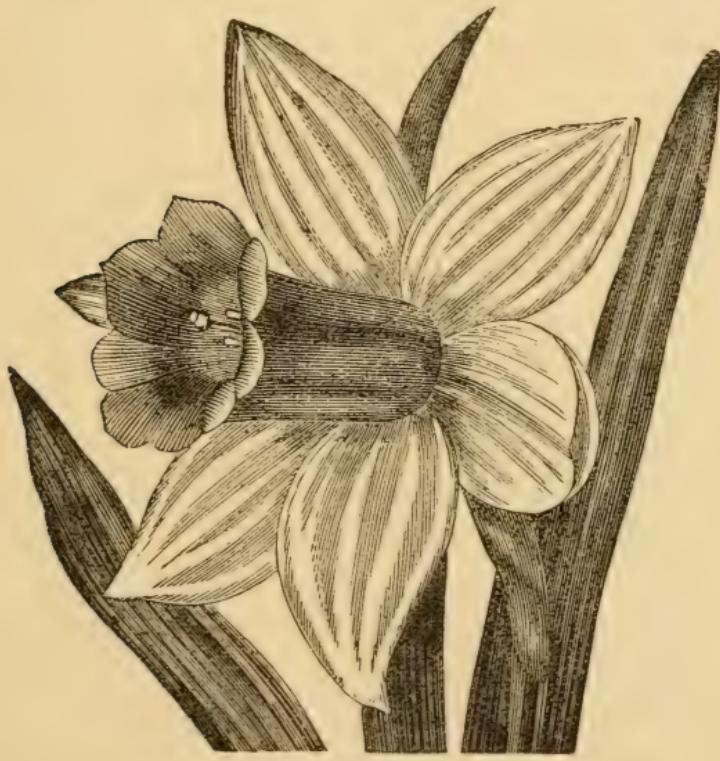
The early Roman Hyacinths, with their beautiful pure white bloom, are very effective for the house in either pots or boxes. They may be grown in flats three inches deep; but, unlike the other or hardy species, they must not be exposed to severe cold or frost, as they are tender and it would kill them.

If in a box they should be planted quite closely together. If you do not wish so many, you can place three or four in a five-inch pot: cover lightly with

soil; water, and cover them up in some dark place where they will not get chilled. Wait until the pot or box is filled with roots. Then bring them into the light, and syringe often to encourage the tops to grow.

NARCISSUS

This is a genus of generally hardy, bulbous plants, which have delighted many generations with their



NARCISSUS

beauty and fragrance. They are sometimes termed Daffodils, and also include Jonquils in their family.

The hardy varieties are particularly fine for out-of-doors. They do well if planted in a moderately rich soil, about six inches deep; and should not be disturbed for three or four years. After this they

will need thinning out. Give them some protection in winter, a covering of leaves, salt hay, or old decayed manure.

If planted at the depth just mentioned, they may be left undisturbed; and other flowers may be planted over them. They resent being taken up each year, and in this respect differ from Hyacinths. If partially shaded from the full strength of the sun, their bloom will last longer.

Narcissus readily becomes naturalized in the grass, like *Crocus*. But, while you can use the mower as soon as *Crocuses* have finished blooming, cutting off their leaves without injury to the bulbs, the *Narcissus* leaves, on the other hand, should not be cut while green, but be allowed to die naturally, and then be cut off.

Polyanthus Narcissus is not hardy, and cannot stand our winters. These plants are chiefly used for early forcing in the house, and may be grown precisely like *Tulips*, in boxes or pots. But do not leave them out until it freezes; and whenever you bring them in keep them very cool, as they will not flower in a warm place.

Exceptions to the above rule, however, are:

Paper White Narcissus

Double Roman Narcissus

They can be forwarded in heat after the flower scapes appear.

Chinese Lily is a variety of *Polyanthus Narcissus*, though called by several other names. It makes rapid growth in a bowl of water, with pebbles about the bulbs to hold them in an upright position. The bloom is white with a yellow center, and very fragrant. Give plenty of light, with air overhead; keep them

tolerably cool; and change the water occasionally. A piece of charcoal serves to keep it sweet.

There are so many kinds of *Narcissus*, named and unnamed, offered by our florists, in pure white, pure yellow, and white and yellow, that those would be hard to satisfy who could not discover some variety that would please them, particularly as nearly all are beautiful.

Trumpet Major is an exceedingly good sort for outdoor planting. If not disturbed it will soon cover a large space.

NERINES

Called after the water nymph of that name, are nearly hardy, bulbous plants. They are very lovely when in bloom.

Loam and leaf soil, with an addition of sharp sand, or charcoal, and perfect drainage, suit them best. They should also have a warm, light position, and be rested regularly every year. If they are wanted for windows in winter, their rest should be given in summer.

Do not repot often, as they dislike it. About once a year, when they commence to flower, shake out as much of the old soil as you can, and fill up with fresh new earth. When the leaves die, store the plants in a cool place; and keep them quite dry until they show again signs of growth.

Nerine Japonica. Pink Spider Lily, is very pretty, and blooms from August to November.

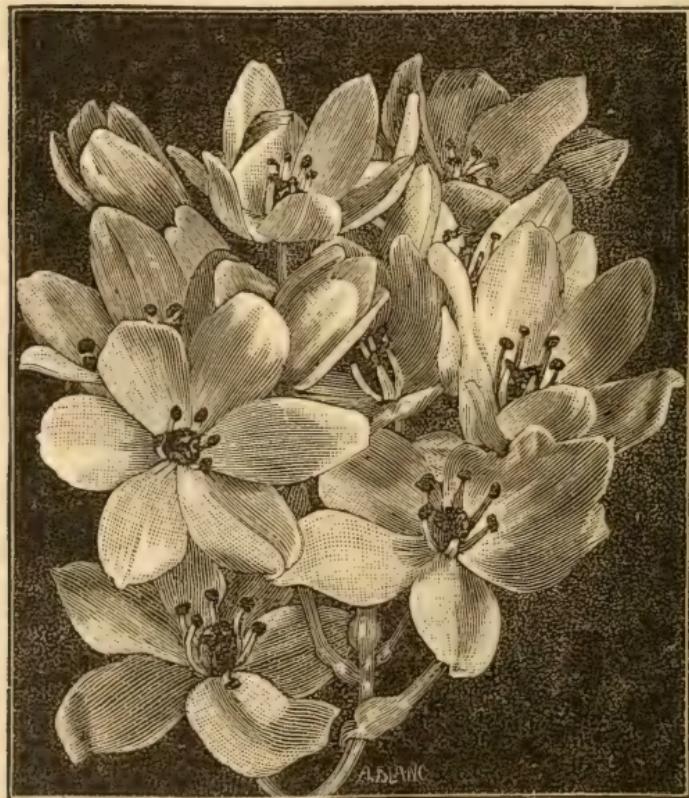
Nerine Sarniensis. Guernsey Lily, is also a handsome variety.

Nerine Fothergilli Major is superb.

Some recommend that all *Nerines* be allowed to make their full growth of foliage during winter and spring, that they may bloom freely in late summer and autumn.

ORNITHOGALUM

This is a bulbous plant with a very large connection, there being about seventy species. Some are



ORNITHOGALUM

hardy, or half hardy, while others are greenhouse plants. They come from Europe, Africa, the Orient, and several parts of America. Many of the hardy kinds are very pretty, and make good border plants, being of the easiest cultivation. The more tender

varieties, some of them almost half hardy, are desirable pot plants for a cool location.

Hardy *Ornithogalums* take care of themselves to a certain extent when once planted; those grown in pots need to be treated in the same manner as Lilies, they also belonging to the order Liliaceæ.

Ornithogalum Arabicum is a lovely species, very showy, bearing large fragrant white flowers, with a black centre on a scape from one to two feet long. The bloom lasts a considerable time. This kind, while not perfectly hardy, is still very good for pot culture.

Ornithogalum Nutans has flowers white on the upper side and green on the back.

Ornithogalum Thrysoides, with yellow flowers, from the Cape of Good Hope, is a handsome greenhouse species, of which there are two or three varieties. One of the latter is pure white; the others have shades of yellow.

Ornithogalum Umbellatum, Star of Bethlehem, is satiny-white striped with green. It is a handsome variety, indeed one of the best.

Ornithogalum Vittatum is another greenhouse species, with yellow flowers.

They are all propagated by offsets; and the hardy ones, outside in the ground, multiply rapidly. Those grown inside need well drained pots, and no water when resting.

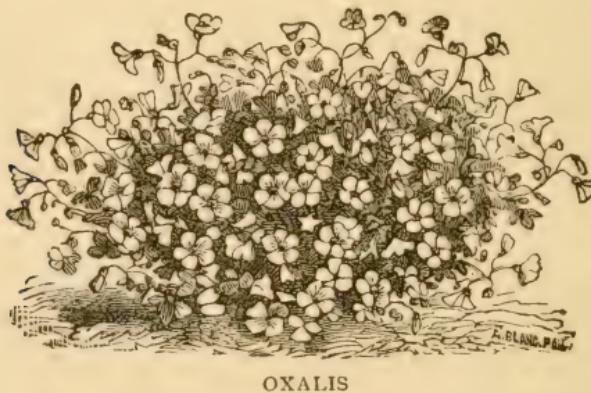
OXALIS

A genus of over two hundred species, some hardy, or nearly hardy, others greenhouse varieties. They are of the easiest culture; and a number of them make very effective pot plants. They appear well in

hanging baskets, or vases; mix in well with Ferns in corners; and some of them are pretty in borders.

They all multiply very rapidly, and may be propagated by division of the roots. They do best in a sandy soil, with a warm and dry position. The varieties grown in pots should be rested, like Callas, by laying the pots on their sides outdoors, that the bulbs may keep dry until ready to commence a new growth.

Oxalis Acetosella, a perennial, is the common Wood Sorrel. It has white flowers prettily veined with purple.



OXALIS

Oxalis Bowiei, from the Cape of Good Hope, is a beautiful species with rosy-red bloom, and light green leaves.

Oxalis Tetraphylla, from Mexico, is a handsome hardy perennial, which will do well almost anywhere. It is generally catalogued under the name of *Oxalis Deppei*. This plant has good-sized scaly bulbs, is four-leaved, and bears purplish-violet flowers considerably larger than those of the general type.

Oxalis Lobata has a yellow bloom, which it throws out in October and November; it is a hardy species.

Oxalis Rosea, rose colored, or *Floribunda* its synonym, is a good variety.

Oxalis Purpurea is purple, with bulbous roots; it grows only about three inches high.

Oxalis Luteola has yellow flowers, and is expected to bloom from January until September. It also reaches a height of only some three inches, and has bulbous roots.

Oxalis Enneaphylla is a hardy perennial, about four inches high, bearing white or rose-colored flowers, streaked with purple.

As a rule *Oxalis* bulbs are quite small, and several should be planted in a pot to make a good display; they can be thinned out if they become too thick. Any of the greenhouse species may be grown outside, and laid away to rest in winter if not wanted. I simply set the receptacle in which they are growing where the bulbs will not freeze; and they start up again in spring.

TULIPS

Like *Hyacinths*, they are very hardy, and may be planted outside in beds, or borders. But I have found that they also are grateful for a little protection during the coldest months. The covering, however, should be raked off early: for, if they have been kept very warm, they may appear too soon, and be caught by some belated frost.

Plant *Tulips* in September or October. Put them three or four inches deep, with a little sand around each bulb, unless the soil is naturally sandy. A good way is to make a trench, about four inches deep, the length of your bed. Sprinkle an inch or two of sand through it; press in your bulbs, about five or six



SINGLE EARLY TULIPS

inches apart; cover with soil and firm it with the feet. Then, when the weather begins to grow very cold, throw litter over the whole bed.

Tulip bulbs may be left undisturbed for two or three seasons without further care; by that time they probably will have so multiplied as to need being dug up, divided, and reset.

If you require for other purposes the ground they occupy, Tulips may be taken up each year, after blooming, when the leaves begin to turn yellow. They should be then dried off, and laid away where mice will not get at them. In the fall you can reset them again.

You will no doubt find two or three of the bulbs clinging together. Separate them, rub off the outside reddish skin, and plant singly as before.

Keep Tullp bulbs in the shade when drying, and store them where the air will circulate freely among them.

It is best, when possible, to plant in October: this gives them time to make roots, and take hold of the ground before it freezes.

There are so many Tulips—their name is legion—that the selection of colors and varieties must be left to your individual taste and personal knowledge, aided, perhaps, by advice from your florist.

For pots and boxes inside, Tulips are a great success, making a brilliant showing and dispersing the gloom of the darkest day.

To begin with, you will need a good compost of about two parts loam to one of well rotted manure, with enough sand to make the mixture friable, so that water may pass through it readily.

You may plant from three to five bulbs, according

to size, in a five-inch pot. If you use boxes, have them about six inches deep; fill them with soil to within an inch of the top, having holes and crock in the bottom for drainage; and plant your bulbs about three inches apart.

Before the ground freezes out-of-doors, sink the pot or box, and cover with earth, mulching with leaves, or something else, to prevent the bulbs from freezing. Leave them alone until you are ready for their company, then bring them in; keep them dark and warm until they are well above ground. At this time they will want a sunny location, plenty of water—but not *too much*—and air from above. You can bring them to the light in installments, and so prolong the supply.

In planting Tulips do not forget to take off the outer red skin; it is sometimes so hard that it is liable to keep the tender shoot from forcing its way through the soil.

These bulbs—and any others intended for spring blooming outside, such as Hyacinth, Crocus, Narcissus—should be put into the ground in September, if possible. One may wait through October, and even until the first part of November; but the earlier planting produces the best results, as it gives the bulbs more time to make good strong roots. These will enable them to withstand the rigors of winter better than if planted late, when they would have but small roots and a feeble hold on the soil. Moreover, all these bulbs, if kept too long out of the ground, gradually lose their vitality until they become utterly worthless. Yet they all do better, and make finer, stronger bloom, if taken up, rested, and reset each year.

CHAPTER II

CACTI

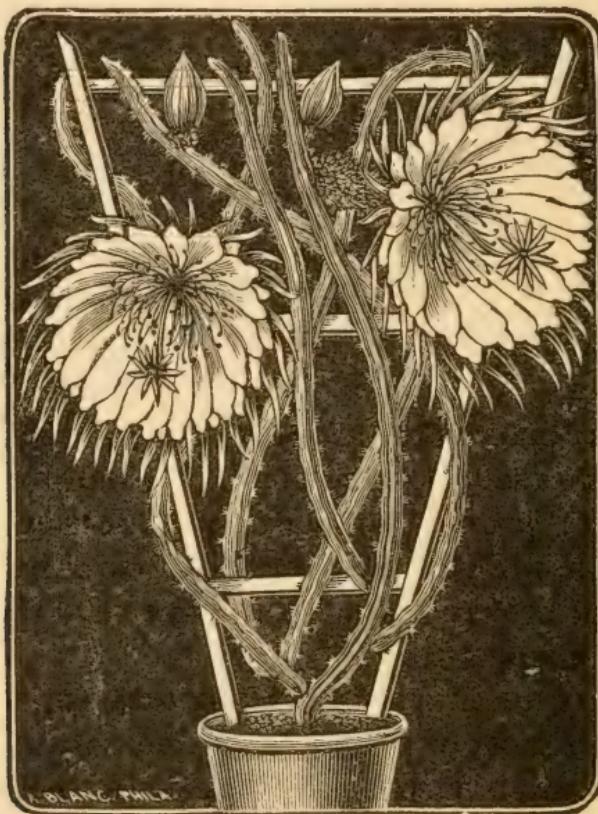
HE Cactus family. If one is fond of Cacti, a good many may be kept in a window, as they do not take up much space, being of slow growth, and not very hard to manage during the winter months. In summer you have simply to sink them outside in your sunniest location, and they will look out for themselves.

Any ordinary garden loam mixed with half its quantity of sand, pounded brick, or old plaster, will suit them, provided the drainage is perfect. To insure this, fill your pots at least one-third, or one-half full of broken crock. I always save the broken pots for this purpose.

February or March is the best time for repotting, shaking off most of the old soil, and cutting out any decayed roots. Cacti, however, do not need changing often; a good top dressing, and occasional doses of manure water, will keep them thrifty for several seasons. In winter give scarcely any water; at this time they do best when entirely dry, unless your room is intensely hot. In summer, on the other hand, they may be showered every day and will enjoy it, as they require plenty of water while blooming.

A good thing about these plants is their freedom from insect pests.

There are many fine varieties of Cacti, which are very attractive and well worth growing; others again that are so peculiar in habit and appearance as to



CACTI

excite our wonder. The bloom of some of the species is marvellously beautiful.

After enjoying them as they come into flower during summer, if you are limited as to room in your house, you can store these plants in any dry place where they will not freeze; they will keep perfectly from season to season, and be ready to

form an interesting group outside for you each succeeding spring.

Cactus is the generic name given to all the members of this large family, which appear also under various nomenclatures. You will, for example, find many desirable species among the following:

Cereus

Epiphyllum

Echinocactus

Mammillaria

And others of the numerous tribe.

Echinocactus, or Hedgehog Cactus, is to me an especially interesting group.

Epiphyllum Truncatum, synonymous with *Cactus Truncatus*, but more familiarly known as Crab Claw Cactus, comes from Brazil. It belongs to a genus of most beautiful, brilliantly colored winter-flowering plants. They make lovely specimens when grafted on *Cereus*, or *Pereskia* stock, in treelike form.

The following varieties of *Epiphyllum Truncatum* are all admirable:

Epiphyllum Truncatum Ruckerianum, which has reddish purple flowers with a violet centre.

Epiphyllum Truncatum Coccineum, a rich deep scarlet, is very fine.

Epiphyllum Truncatum Magnificum, has large white bloom, with rose-colored tips.

Epiphyllum Truncatum Violaceum Superbum, is pure white with deep purple edge.

And there are others equally attractive.

Epiphyllums, like all Cacti, succeed best in sandy soil. In Texas I have seen Cacti flourishing in the most barren places, growing in almost pure sand,

clinging to all but bare rocks; and yet, from various experiments, I know that they enjoy a little rich food.

Some leaf mould, or a small quantity of *very well rotted* old crumbly manure, they will appreciate; and, if you can secure some old mortar rubbish, mix it through your compost.

Have perfect drainage, and rather small pots in proportion to your plants.



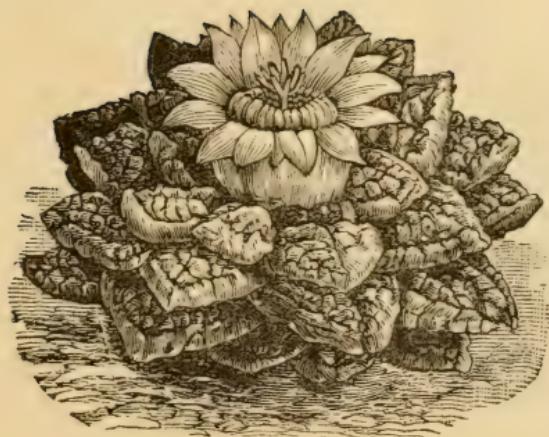
EPIPHYLLUM

In summer sink them outside, where they will get the sun; and water them freely.

By autumn they should have formed good-sized shapely heads, and be ready to bloom when carried into the house.

They will flower in a temperature of about sixty degrees. But when they have finished, Cacti need a much cooler position, and just enough water to keep them from drying up or shriveling.

If you cannot procure grafted standards, place the pots on a bracket or table, where the plants can hang down, as they are of a pendent habit.



MAMMILLARIA

CHAPTER III

FERNS

Adiantums

Nephrolepis

Platyceriums

ADIANTUMS



THESE are the most beautiful, but, unfortunately, the most delicate and tender of all the Fern family. While they ravish the eye with their loveliness, until all beholders long to possess them, yet, when admirers accomplish the wish, it generally means that the Ferns' doom is sealed: for very few ever succeed with Adiantums outside of a greenhouse.

Despite the difficulties attending their sojourn in a dwelling, I am proud to say that I have weaned them from the seclusion of a hot-house, and taught them sociability, and how to thrive. This, however, was done only at the expense of several fine specimens.

Adiantums (from *adiantos*, dry) are the Maiden-hair family. They belong to the order Filices, an extensive genus of tropical and temperate Ferns.

Few, if any of them, are hardy. Their chief requirements are a compost of good loam and sand, *perfect* drainage, sufficiency of pot room, not too much sun, shade from the afternoon rays, and *not one drop* of water on the leaves, as it scorches and dries them up just as though fire had passed over them. Ferns, however, demand an ample supply of water at their roots, at all times, except when resting during November, December and January. Then the quantity may be lessened, unless your house is very hot. Never let cold air blow directly upon them; but on mild days you can give air by opening the upper sash of some window in an adjoining room. I keep my Adiantums on a table in the front hall, about five feet from a bay-window; and they get sufficient air from the opening of the vestibule door.

It is the wetting of the leaves that invariably kills them, combined with soggy or sour earth, and violent changes of temperature.

The above treatment is for a dwelling-house. If carefully carried out, the Ferns should thrive as mine have done.

After resting awhile, they will, about February, commence active operations once more.

If your plants are very large, and you wish to keep them within bounds, and not be forced into using larger pots—for they must have room—you can divide them by cutting, or slicing right through the ball of roots, with a sharp knife, and thus separating into smaller plants and pots. But I should not advise this unless you have seen it done; and, perhaps, it would be safer to get some professional to do it for you.

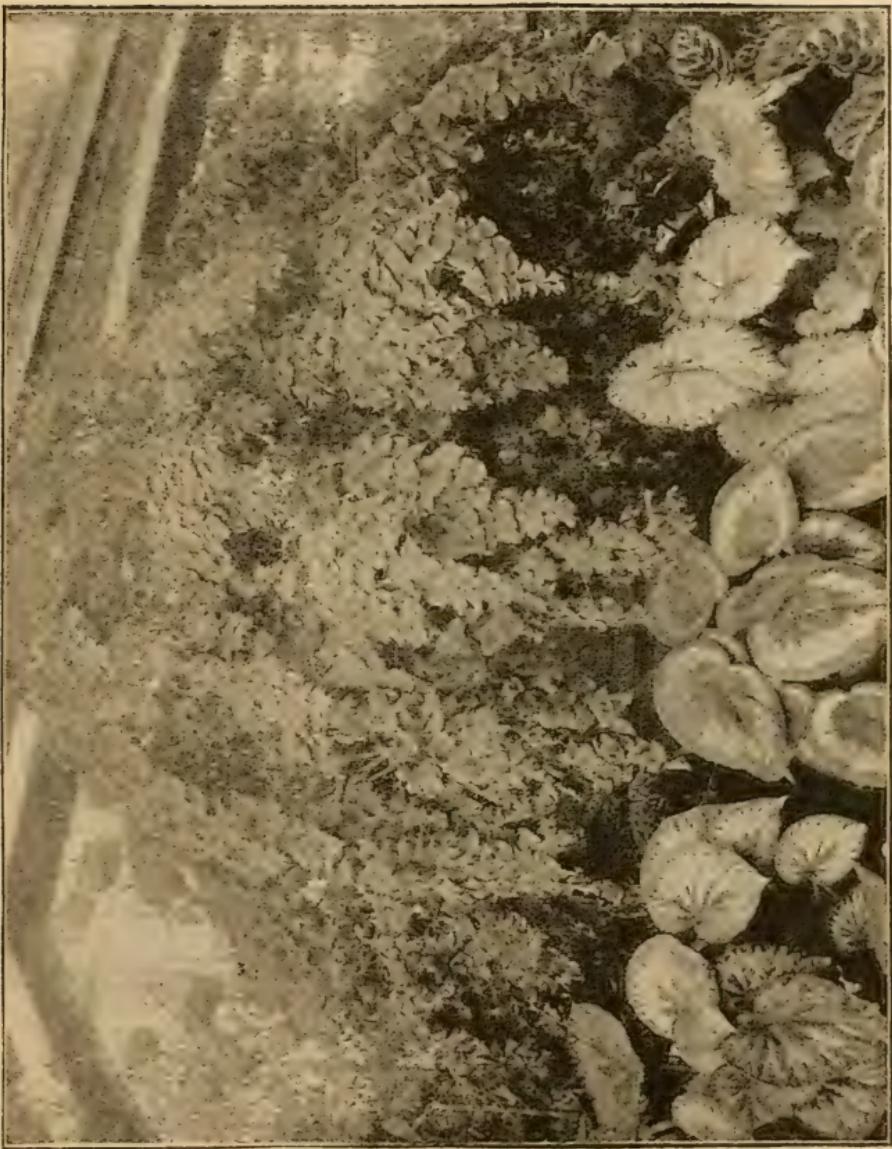
These same professionals will tell you that it is not possible to grow Adiantums outside at all. But, as I have done so, I know them to be laboring under a delusion.

About the first of June, if the weather is settled, I place my Ferns in a sheltered corner, where two buildings meet, forming a sort of recess; here only the morning sun reaches them. They are set on a wire stand to keep animals from them; and, with saucers under the pots, are kept thoroughly wet. The spot is so sheltered that the wind does not get at them; and they grow nicely all summer, becoming vigorous and ready for the change to the house at the first sign of winter.

When I say that Ferns need room, I do not mean that they must have immense pots; for they grow well in very small ones compared with the size of the plants. But they must not be pot-bound, or consume all the soil before they have fresh nourishment given them.

Always keep a strict watch for insects, as Adiantums are liable to attacks, particularly from the Mealy Bug, the Brown Scale and White Scale. The best way to get rid of these parasites is to pick them off with the fingers and kill them. Thrips and Aphides also attack Ferns, but can be destroyed by tobacco smoke, if you have any way of fumigating. This must be done very carefully, as smoke will destroy the plants if too strong. My Ferns have never been badly infested by insects; so that in respect to ridding them of the pests I have had little or no personal experience. With other plants, however, while my fortune has varied, I have generally succeeded in averting the evil.

ADIANTUM FARLEYENSE



Adiantum Capillus Veneris, the common Maidenhair, is widely known and generally used for purposes of decoration.

Adiantum Tenerum Farleyense (Farley's), from Barbadoes. A tender stove variety, with which I have recently experimented with gratifying results. To my mind it is the most beautiful of this very large family. Despite its beauty, the species will always be scarce and rare, on account of its tenderness, which is a great pity as it is simply superb.

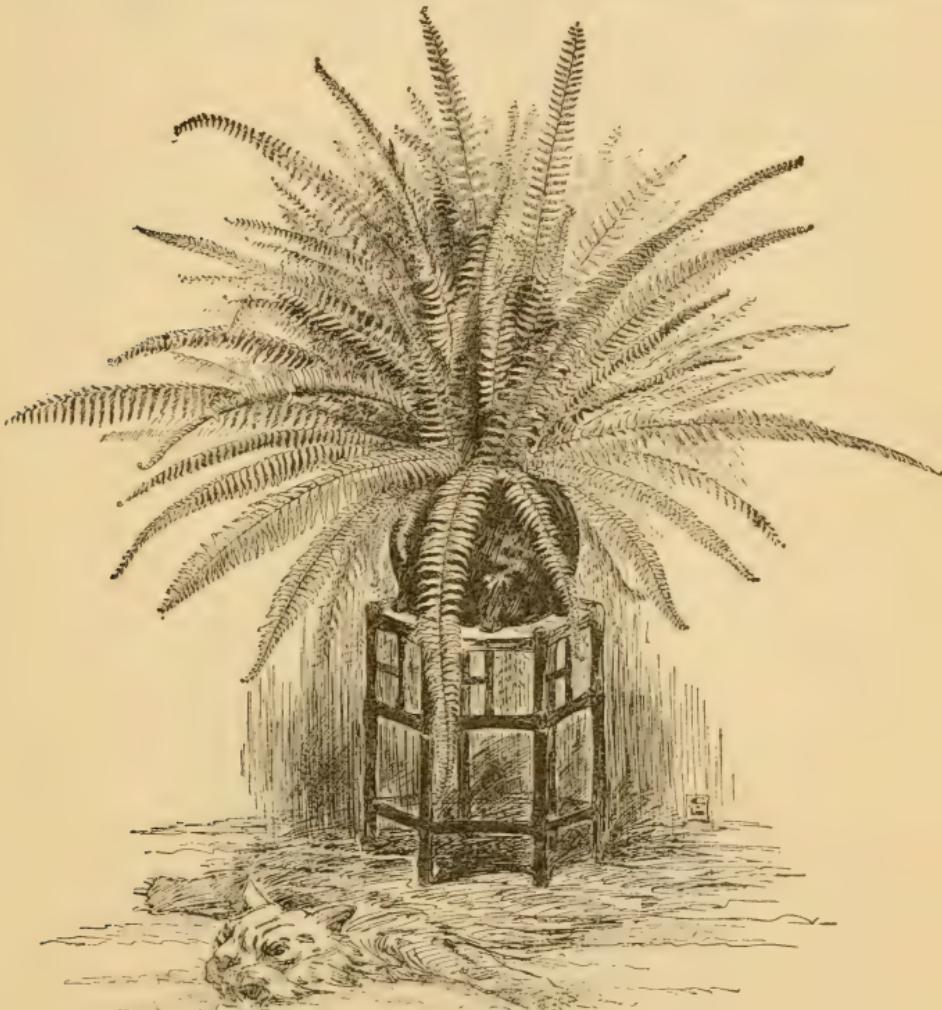
There are many hardy Ferns, which may be grown almost anywhere. Some of them are very pretty, and worthy of place in any collection. Of these I shall have to treat, separately, as we all want Ferns of some kind, and if we cannot have the stove or greenhouse varieties, must content ourselves with those that are less exotic.

Most Ferns do much better in a moderate temperature. And now that the general public begins to learn that it is not necessary to keep them in the excessive heat of a greenhouse, but that they may be grown in a much cooler atmosphere, their popularity, and the demand for them is rapidly increasing.

Hardy Ferns will thrive outside, being mostly deciduous; but they like a shady, sheltered position, good deep soil, and plenty of water. They are helped by a little protection in winter.

Many of them may be potted and brought into the house. If kept in a moderately warm room, where they do not get too much sun, well watered, and if the soil is not allowed to become sodden, they will grow all winter. But beware of the bugs; and

be sure that your drainage is perfect for all kinds of Ferns. Remember that they like a rich soil. Good leaf mould from the woods, mixed with some sand,



NEPHROLEPIS EXALTATA VAR. BOSTONIENSIS

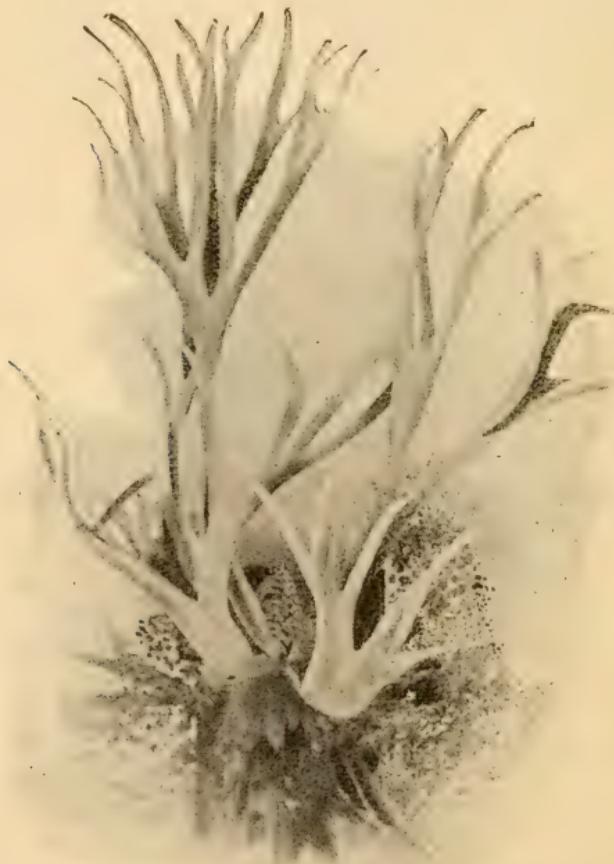
suits them very well; or you can mix with your earth some peat, if you have it.

NEPHROLEPIS

Nephrolepis Exaltata, the Sword Fern, a native of the Southern States, is generally known and appreciated as an excellent house plant.

When one commences to write of Ferns it is hard to tell where to stop, the subject is such an interminable one, and the genus almost endless. However, I think I have spoken of all that will be useful for the house, unless you wish to have a Wardian Case, or to grow Tree Ferns.

The first is easily managed; any good florist will fill it for you with suitable varieties: and I hardly think you will aspire to the latter, as they might prove too tall for you, until you are provided with a hot-house.



PLATYCYERIUMS

PLATYCERIUMS

A small genus of epiphytal Ferns, which form a very attractive and distinct variety. They take their name from *platys*, broad, and *keras*, a horn; because their fronds are divided, or shaped like a stag's horns: hence they are commonly known as Stag Horn Ferns.

Gardeners have various methods of growing them, some using baskets or shallow pans, while others fasten them to blocks of wood with a little peat and sphagnum around their roots. They can be potted in a mixture of rough peat—that is, peat which is left lumpy—and sphagnum, or dried moss; set in a larger pot; and the whole suspended by a wire fastened securely around the rim of the outer pot. Hang in a warm room, and keep wet. The roots will run all over the inner pot, as they feed on air. If taken good care of, they should make fine plants, and will prove very interesting and curious.

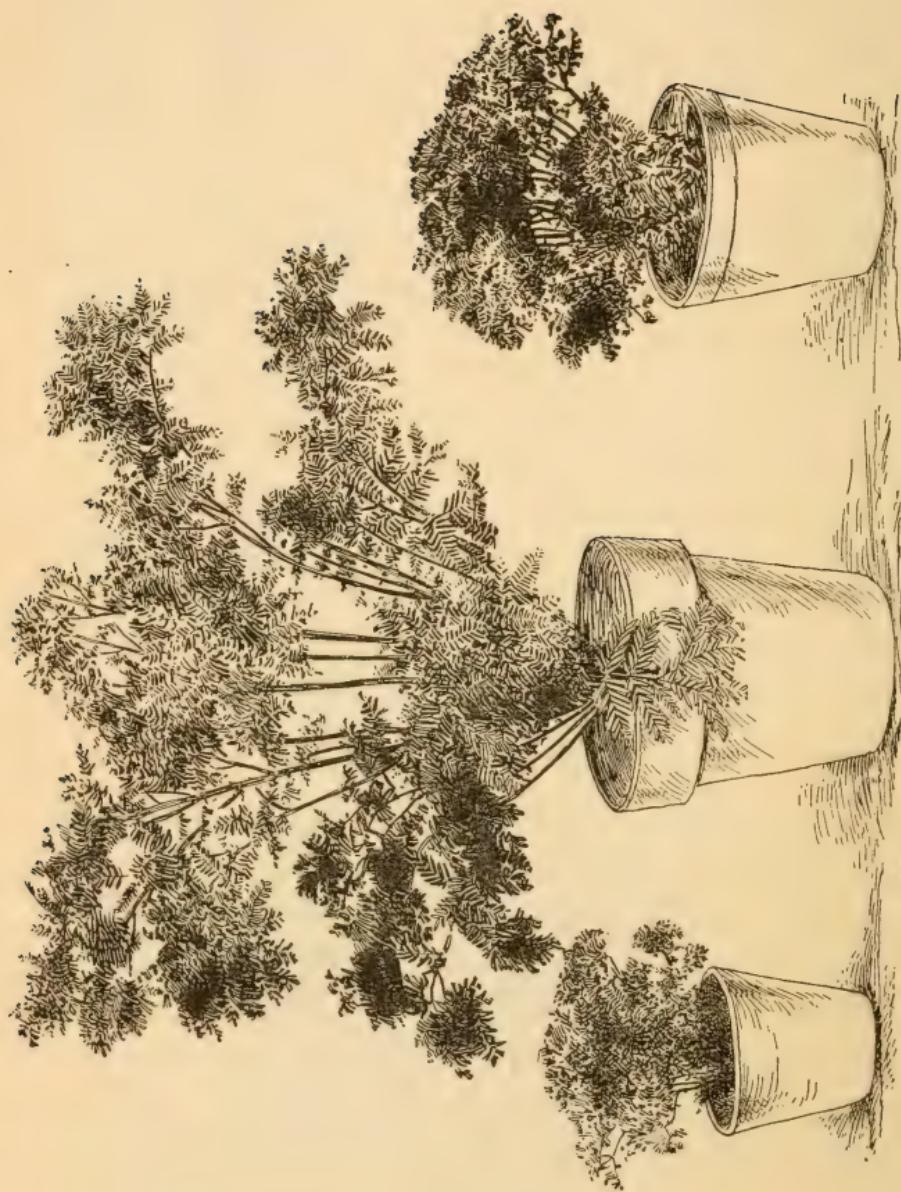
PTERIS

Pteris is a larger and rather cosmopolitan genus, many of the species being beautiful, and possessing a number of good qualities. But I have never tried to grow them, so cannot say much on the subject; though no doubt they would prosper under the same conditions as their friends and relatives.

Pteris Aquilina, one of this family, is the common Bracken, or Brake Fern.

There are many other kinds of Ferns; but, as this is not a book on botany, it is not necessary to enumerate them all.

PTERIS TREMULA



CHAPTER IV

FLOWERING PLANTS

<i>Ageratum</i>	<i>Heliotrope</i>	<i>Pansies</i>
<i>Bouvardias</i>	<i>Iberis</i>	<i>Petunia</i>
<i>Chrysanthemum</i>	<i>Impatiens</i>	<i>Phormium</i>
<i>Daisies</i>	<i>Lantana</i>	<i>Plumbago</i>
<i>Datura</i>	<i>Mahernia</i>	<i>Reinwardtia</i>
<i>Fuchsia</i>	<i>Mignonette</i>	<i>Salvia</i>
<i>Geraniums</i>	<i>Nicotiana</i>	<i>Violets</i>

AGERATUM



AGERATUM

IF you have only a few window plants, and wish for a bit of color, Ageratum should answer well, if it is not too humble for your requirements. While low down socially on the floral ladder, its modest hue is very grateful to the eye.

To succeed with Ageratums, humble as they are, you must take certain precautions.

In the first place, for winter bloom, it is best to have young plants, not old ones that have been hard at work all summer. And yet, the poor things will struggle to please, if you cut

them sharply back during the last part of August, and force a new growth. But it is much easier to have winter bloom with young, new, vigorous plants, that will not need urging to do their best.

Cuttings root quickly under our hot August sun. If potted in small pots, shifted to larger ones as soon as these are filled with roots, and so kept growing steadily, the new plants should be well grown and nicely shaped by the time you wish to take them in—that is, if you have done your duty by them. This is accomplished by pinching, or “nipping in the bud” any premature attempts of theirs to appear on the stage of life, before they have a call, or receive their cue.

When you take them in, do not give enough water to rot them: they are soft-wooded plants and cannot take care of it, unless growing rapidly in heat. Let them have a warm sunny window. And be sure to invert your plants, and dip them each day in a bucket of water to drown the Red Spider.

If there is a little common soap in the water it will do no harm. Have the chill off, so that it is comfortable to your hand. Let the water dry on the plants.

The more you cut off the flowers, the more bloom you may expect.

BOUVARDIAS

Named after Dr. Charles Bouvard. They are handsome evergreen shrubs, which all would enjoy and be glad to cultivate, if they knew how to manage them. A well grown plant should be nearly covered with large clusters of delicate, waxy-looking flowers. They come in various shades of pink, pure white, and brilliant scarlet.

For the house Bouvardias should be potted in good

loam, leaf mould and sand, in equal quantities. But in summer they may be planted outside; and when given plenty of water, they will make rapid growth.

Presently they must be prepared for their winter



BOUVARDIAS

work. As soon as they send up enough shoots to make respectable-looking plants, about ten or twelve inches high, cut off the tops to make them branch. In this way you can trim them into neat shapes, well rounded, with a much larger blooming surface than otherwise they would have. If you neglect to pinch

them, you will have ill shapen, almost flowerless plants.

Lift *Bouvardias* in September. Pot them in rich soil, well drained; water thoroughly, and place them in the shade until they recover.

As soon as they hold up their heads, and appear reconciled to the change by beginning to grow again, take them into the house; give plenty of fresh air from above, and a judicious supply of water—not too much, nor yet too little—with liquid manure once a week as soon as they begin to flower. This they should do before Christmas; and, if not in too hot a position, they should bloom for a long time. The Red Spider, *Aphis* and *Mealy Bug* have a great affection for them, and must be fought vigorously.

When a bloom begins to fade, cut it off, as you would a Rose or Geranium bloom that was dead. Never allow a withered flower to remain on your plants. By this cutting back, as gardeners say, you will induce new shoots and fresh buds, which will soon expand.

Bouvardias, however, must sometimes rest, like everything else: therefore it is well to have new plants coming on. They are very easy to propagate, rooting quickly from cuttings during the summer.

In potting, be sure to have good drainage; and shade from too strong sunlight.

But few of these plants are fragrant; yet it would be hard to find a handsomer sight than a well grown *Bouvardia* entirely covered with lovely flowers.

The following are fine varieties:

Bouvardia Humboldtii Corymbiflora

Bouvardia Jasminiflora

They have white, fragrant flowers, and bloom during the winter.

CHRYSANTHEMUM



From *chrysos*, gold, and *anthemon*, a flower. An exceedingly large and very prominent genus of herbaceous plants, with which of late years we have become familiar. They win the attention and admiration of all by their pleasing variety of shape, form and coloring; and so far surpass the flower of our grandmothers' days as to be scarcely recognizable as of the same stock, reminding one strongly of the diversity, peculiarities, and dissimilarity we often find among members of the same human family.

There are so many varieties that it is difficult to decide which to favor and mention first; as to praise, they all deserve some meed of it, for one merit if not for another.

We may, however, select the following:

Incurved-Flowered Chrysanthemums**Recurved Chrysanthemums****Large Anemone-flowered Chrysanthemums****Small Anemone-flowered Pompon Chrysanthemums**

Pompones Reflexed**Japanese Varieties****Early-flowering Chrysanthemums****Late-flowering Chrysanthemums**

Even the Pyrethrums, and Marguerites or Paris Daisies (*Chrysanthemum Frutescens*), belong to this innumerable genus.

To grow these fall beauties successfully is not so difficult as most people imagine.

There are many of them so perfectly hardy that they can be planted outside in the ground; and with ordinary care they will live for years, growing stronger all the while.

For these kinds I select a sunny location, and plant in very rich soil; thin them out if they put forth too many shoots; and disbud if I wish to have large blooms—that is, rub off the greater part of the buds, as this throws the strength and vitality into those that are left, making the blooms much larger than otherwise they would be. Do not allow any buds to form before August. Keep the ground about plants mulched with old manure; this prevents it from drying out in hot weather. Turn on the hose every afternoon when the sun has left them, and drench thoroughly. If the Black Flea attack them, sprinkle the leaves with tobacco dust, while they are damp.

The Early-Flowering Chrysanthemums are the best to grow in the manner above described. Should there be a threatening of frost, cover them with sheets, or anything, at night.

They stand quite cold weather. After they have finished blooming, and are nipped by a frost, cut them down to the ground; and cover heavily with leaves and manure. In the early spring, you will

find them pushing their way up to the light through the kindly covering that has kept them warm all winter.

For the house they require a different treatment. You may, however, by judicious management, have their lovely bloom to brighten your home until quite late in the season.

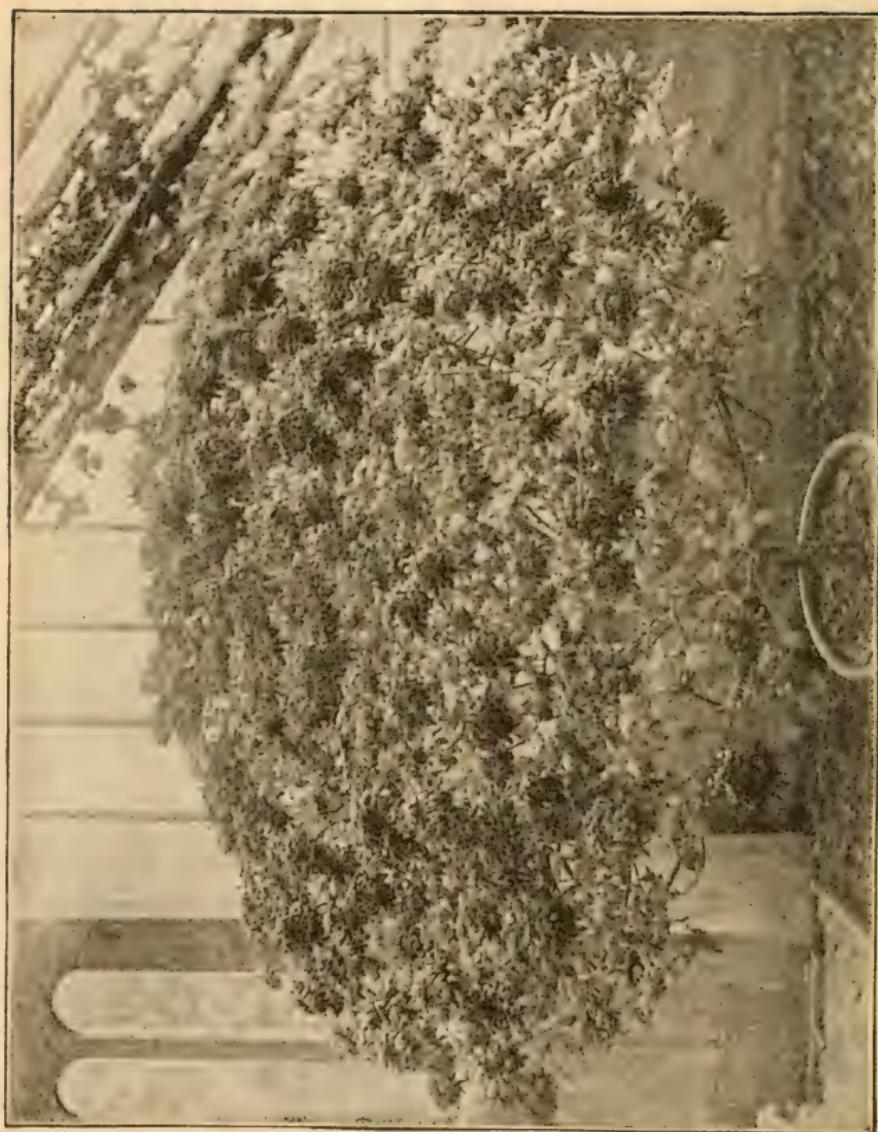
Keep in well drained pots those plants which you wish to bloom in the house. Start them as early as possible in the spring, using a good loam, not light, mixed with an equal proportion of rotted manure. Cow manure is the best, if you can get it.

Chrysanthemums require quantities of water; yet the soil must not be allowed to become sour.

If you have a hose and plenty of water, I should advise the following treatment: Sink the pots to the rim, in some place outdoors where they will not get the full glare of the afternoon sun, but sufficient light and air. Every day, without fail, soak the ground all about them. I place mine in rows, about three feet apart each way; keep the weeds out; and flood the whole bed. I also shift or turn the pots frequently, to prevent the roots from growing through, and in order to keep the plants straight. They always have a tendency to lean toward the sun, and if not moved will draw all to one side.

When about a foot tall, begin to pinch off the terminal buds, that they may throw out side shoots, or laterals, thus making bushy and stocky plants. Let as many shoots grow as will please your fancy, and make a well shaped plant: there is no given rule, it being merely a matter of taste, some preferring more, others less.

Mulch the top of your pots with old manure, to



CHRYSANTHEMUMS

keep the ground from drying out; by this means, also, every time you throw water on the top, nourishment will be carried down to the roots. Practically it is the same as giving liquid manure, and tends to develop a strong root growth, which Chrysanthemums need. They must have plenty of room for such development, and never be allowed to become pot-bound. Should this occur, you will not have fine plants, as it gives a check that cannot be undone. You may obviate the difficulty by examining the roots every now and then; and, if they entirely fill the pots, by slipping the mass out, and transferring to pots of larger size.

Possibly your plants will need to be changed three or four times if you wish to make the most of them. At first, as you understand, they are in very small pots; but by the blooming period, that is about September, a large plant may require a ten-inch pot.

To summarize: Remember that Chrysanthemums want a great deal of water; are gross feeders; should have liquid manure when blooming; and are shaped by pinching and training to suit your individual taste.

Keep them back until August, and then let the buds form.

If you desire to have large flowers, such as you see in florists' windows, or at flower shows, you must rub or pinch off the greater part of the buds; it is only by this means, called disbudding, that they are made.

Sometimes, in order to obtain an exceptionally large flower, gardeners will leave only one or two buds on; and but two or three shoots, or even a single shoot to a plant. The roots, having but this

one shoot and bud to nourish, throw all their strength into it, making an abnormally large flower, over which the generality of people will be lost in amazement, not understanding the secret of its production.

These potted Chrysanthemums may be left out until quite late; but must *surely* be inside before the appearance of a frost. On mild days, however, they can hardly be kept too open and cool.

Accustom them gradually to the change of temperature. Any sudden transition will be apt to turn the foliage yellow, which gives them an unsightly appearance, and also weakens both plants and flowers: one must bear in mind that the leaves are their lungs.

Keep your windows down at the tops to give them air. Sprinkle the leaves if possible. While they never must know the want of water, or *ever* become *dry*, yet they will not require so much water when flowering.

Wash *well* before moving into the house, to dispossess the Chrysanthemum Flea, which is a great pest. If the vermin reappears, you will have to dislodge it with tobacco dust, blown on with a small bellows; but do not get this on your flowers.

Another way is to take the plants outside, if the weather is mild enough, and wash them with a solution of whale oil soap. Even common laundry soap is good, if clear water will not rid you of the fleas. But, whatever you use, the advice holds good: keep it from the flowers, as it will spoil their bloom.

In applying any of these insecticides, it is always best to rinse off the plant with clear water within twenty-four hours.

If you have many plants, some early, others late, or medium; and have a cold room, yet one where they will not freeze; you can, by a little good management, have cut flowers, or blooming plants until nearly Christmas. They will begin to open up their bloom in succession, being retarded somewhat by the temperature of the room. You can take one or more at a time into the heat of your living-room, and the sunshine of your pet window. Here they should mature to perfection, unfolding all their glorious panoply of color in gorgeous array, elating you with pride at your success, and making you an object of envy to all your visitors.

By having a few of each of the many varieties, and keeping them as cool as possible, well watered, and vigorous, you can prolong the blooming period, more and more, as you learn by experience their wants, and just how to manage them.

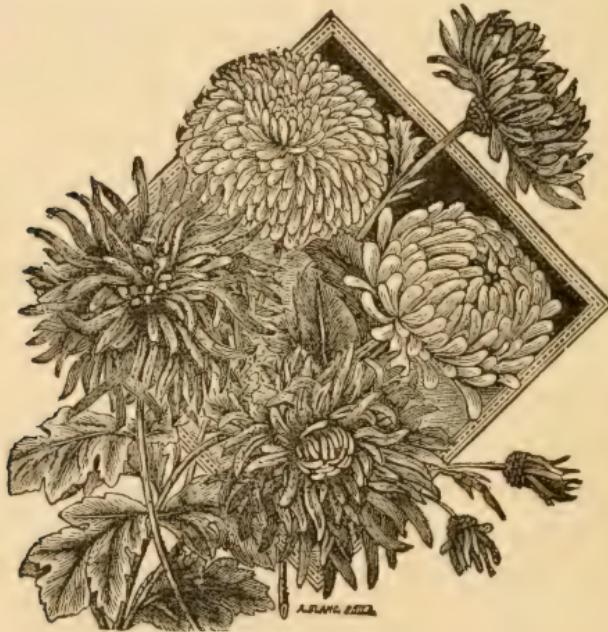
As the florists have, by experimenting, induced Chrysanthemums to linger with us to an indefinite period: so now they are trying to reverse their methods and inveigle them into unfolding their beauty much earlier. This is particularly gratifying to the plants' admirers, who have no facilities for raising or keeping them anywhere but outside: we are thus enabled, by planting the early sorts, to get the benefit of their bloom before they are cut off by frost.

After Chrysanthemums have finished flowering, cut them back; and set away the pots in some cool, well lighted, but frost-proof cellar or room. They will need no attention until about the first of March. Then take them out; and you probably will find that the greater portion have started, and thrown up many sprouts

Place them in the light, and water them ; they should soon commence to grow vigorously.

These sprouts, and a portion of the roots attached, generally can be cut from the parent plant with a sharp knife.

Pot these cuttings, singly, in small pots of rich soil; water carefully until you find them growing well; and change to larger pots as fast as the small ones become filled with roots. They must not be checked,



CHRYSANTHEMUMS

but kept growing steadily all the while. This will make a wonderful difference in their appearance and florescence during the coming season.

I believe that I have given you about all my personal knowledge of the genus *Chrysanthemum*, though there probably is much more to be known regarding them. It appears unnecessary to recommend any particular member of the family, as most all of them are good, and individual tastes differ,

each of us having especial pets or loves. And, while I could go into ecstasies over my own favorites, having a very expansive heart for all the floral world, I am fearful that the list, once begun, might be interminable. So it seems best to suggest to you a conference with some reliable dealer in these autumn queens. Should I, however, name any as fascinating pets, I think it would be some of the charming Ostrich Plume variety.

DAISIES

Their botanical name is *Bellis*. They are hardy herbaceous perennials, which, like Pansies, may be arranged during the autumn in low boxes, or "flats," as gardeners call them; and covered up, in the same manner suggested for Pansies, for early spring blooming.

These boxes or flats can be made to fit your windows. Being only a few inches wide and deep, they occupy but little space; they are

not much trouble; and you will find the Daisies very cheering as bright heralds of advancing spring.

Prepare your flats in the size you wish; fill them with good loam, and put in your plants. Sink these, as advised for Pansies; and cover with leaves before frost.

Bring the boxes inside to a warm position when you wish to start the plants into active growth. Water them carefully; and, when sufficiently advanced, give them a shady window where they will get only the morning sun.



DAISIES

DATURA

This is generally an annual. The shrubby varieties, in my opinion the best of the family, are termed *Brugmansias*.

The foliage of *Daturas* is rather coarse-looking; but they can be trained into handsomely shaped



DATURA

specimens of miniature trees, from which the large flowers, white, yellow, violet, or red, hang in profusion. They are worth growing, if you have room, and care to experiment with them.

In summer they do well out-of-doors, where you can train them into any shape that suits your fancy. In fall you may either bring them into the sitting-

room, or store them in a cool cellar where they will be dry.

Daturas bear severe pruning, and may be cut to keep in any form or size. The best time to prune or trim them, is immediately after they have finished flowering, or in the fall.

Brugmansias, or shrubby Daturas, are naturally evergreens; but they do well when treated as deciduous, that is, when allowed to drop their leaves; they should then be put away somewhere to rest awhile, from about December until February. You may, however, let them continue growing right on.

They must be kept dry and cool when resting in the winter.

The head may be made by stopping the main stem; this is done by pinching when it becomes sufficiently tall. Keep all side shoots or laterals rubbed off until this main stem has attained the proper height. After you have stopped its growth upward, let it throw out branches until it gets a round handsome shape; you need not hesitate to trim the plant to accomplish this.

When it has once developed into the required form and size, each year's growth may be cut back, directly after flowering, to where the leading branches originate.

Old plants do better than young ones, flowering much more freely.

When they are blooming, manure water is very beneficial; it not only gives strength to the plants, but also increases the size and quantity of the flowers.

Daturas are apt to be infested with White Scale, for which you must keep a sharp lookout.

Datura Suaveolens also known under the synonym *Brugmansia Suaveolens*, has large, sweet-scented, white flowers. It is a handsome greenhouse shrub, from Mexico, and makes a good standard.

Datura Sanguinea is a summer bloomer, which can be trained into a very handsome plant. Its stems are arboreous, or treelike, and the flowers orange-yellow.

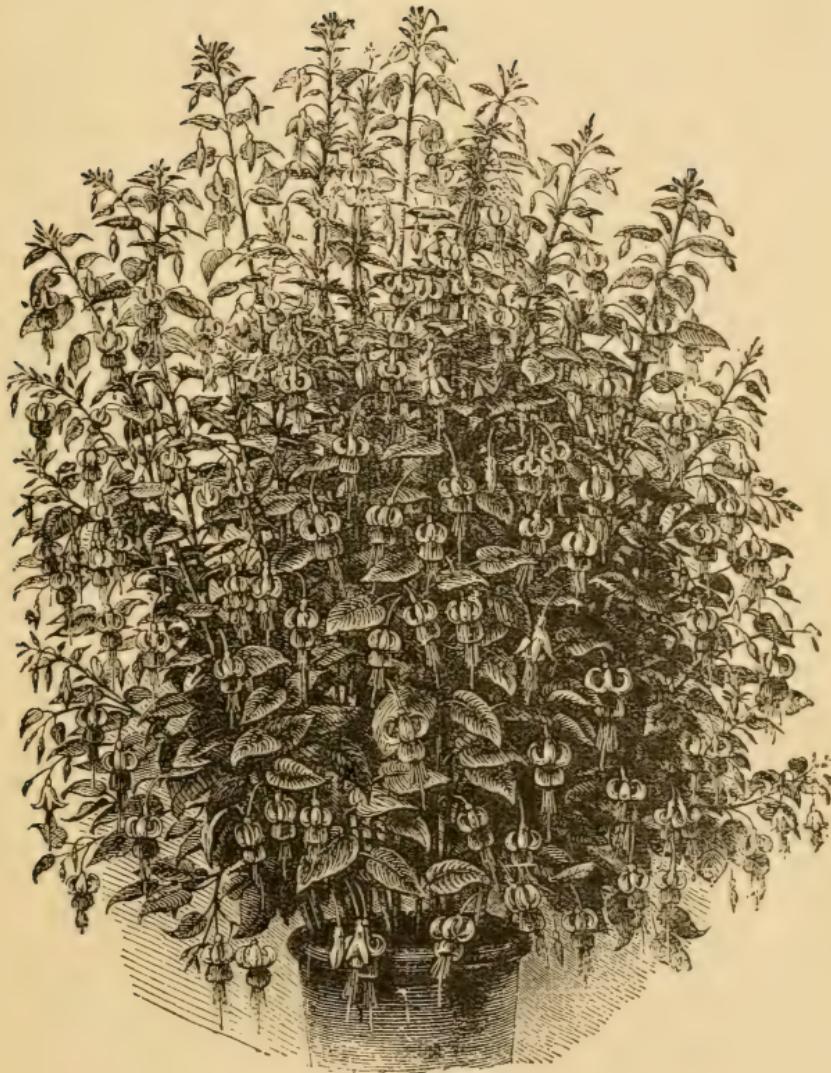
Some varieties have double flowers and are said to be very fine; but I have never seen them.

FUCHSIA

A genus of some fifty species, mostly natives of Central and South America, having been brought from Mexico, Chili and Peru. It was named after Leonard Fuchs, a German botanist, who lived in the sixteenth century. It is one of the most ornamental and popular of garden plants.

Fuchsias love shade and moisture, with a rich soil, preferring fine leaf mould and sand. If you cannot get leaf mould, use the best soil you have; but make it porous, that it may not become sodden. These plants must have plenty of water; and be sure that your drainage is perfect. If they get dry, they will drop both leaves and buds.

Do not use very small pots. Fuchsias require ample room in which to develop their roots; if they become pot-bound, it checks their growth for a long time. Shift to larger-sized pots as soon as the earth becomes filled with roots; water the roots and syringe the foliage daily. Allow them, while growing and blooming, only the early morning sun; give occasional doses of manure water; and you should have



FUCHSIA

fine-looking plants covered with large and beautiful flowers.

While Fuchsias are lovely summer-blooming plants, they cannot continue flowering all winter, as they must have rest. If not planted out, but kept in their pots, they may continue bearing through November, and part of December; then they should be set away in some cool place where they will not freeze, with just enough moisture allowed to prevent their drying up.

When they show signs of growth in the spring, repot and trim them; give them more water, gradually; they soon will be attending to the season's work, and be ready to take their place again in your favorite window. The older your plant, the more graceful and beautiful it will be.

They must have a support of some kind, as they are very brittle, and apt to be broken.

Fuchsias may be grown in a variety of shapes to suit the taste, by training to stakes, and pinching.

Cut them back quite closely when you trim them in the spring, so that when they break into new growth they may make stocky and shapely plants. Thus they will present a much better appearance than if allowed to follow their own sweet will; in the latter case they are sure to be straggling and ungainly. Indeed there are few plants which are not improved by a judicious use of the pruning-shears.

Their mortal foe is the Red Spider, which will certainly attack them in a dry atmosphere. To avoid this, syringe them daily, throwing the water up on the under side of the foliage. If this is not done, and the insects get leeway, they will soon ruin your cherished plants.

When Fuchsias are outside, if you wish to prolong their blooming in the fall, you may do so by nipping off the terminals, which will force them to throw out many laterals, thus producing fine full heads. If you pick off all buds that form until about the middle or last part of August; then let them make as many as they will; and feed them liberally; they will remain in bloom a long time. But to do this they must have a light, airy, and very cool situation; must be kept in their pots all the while; and be frequently turned, to prevent the roots from growing through, and the plants from being drawn by the sun.

Another way to have them late in the house, is to start young plants the first week in August, and force them ahead with rich feeding.

I have said that Fuchsias were only summer bloomers. Excepting a few stray flowers, I have heard of but one which will bloom in winter, namely,

Speciosa

Phenomenal is a grand summer-blooming plant with enormous flowers.

Florists now offer many beautiful Fuchsias, which are improvements upon the older varieties. They are exceedingly numerous, as the catalogues every year present some so-called new type or types for our consideration. One can hardly go astray, however, in making a selection, as, under proper cultivation, they all have decided merit.

Storm King is a favorite of mine.

GERANIUMS

It would be hard to find plants better known than these, or more popular, as we meet them everywhere, and no garden is without them. They have been hy-

bridized, and crossed, until the old type is hardly recognizable in the varied and multitudinous fancy specimens, which the progressive gardener has produced for our delectation.

They flourish in any good soil, but must have proper drainage and all the sun possible.

Out-of-doors they take care of themselves to a certain extent, and require no particular cultural directions.

Inside in winter, it is a different story. I have seen them thriving in apparently impossible situations. On the other hand, I have struggled to keep them alive by bestowing upon them the most tender attentions, only to see them gently fade away. My fortune thus continued to vary until I discovered the true inwardness and secret of it all, in studying the requirements of their existence.

In the first place, plants that you wish to go on growing and blooming in the house during the winter, must be prepared for it during the summer by being kept in their pots, instead of being put into the ground, as most people do with them. Get young plants to begin with, and, as soon as they are four or five inches high, commence pinching them, taking off the top; this will force them to send out laterals. Nip these also, to form side growth; and continue the process until you have secured a nice, bushy, compact plant, well covered with leaves, in place of an ungainly, tall, awkward-looking specimen. By making it form branches close to the roots, and letting these form branches in turn, you can obtain a lovely, gracefully rounded plant, which will have an extended blooming surface from these various tops, or ends of branches.

Having gotten your plants into good shape, keep them as dormant as possible; this is accomplished by not giving more water than is necessary to prevent them from drying out during the summer months. The reason is, in order that they may be rested and ready for the winter work; for they must have rest,



GERANIUMS

and, if you do not give it to them, they will take it when you most desire their active service.

Next, scrupulously remove *every bud* that ventures an appearance.

About September first, repot the plants in good

rich loam, after shaking off most of the old soil; water thoroughly; and get them growing vigorously by cold weather. Be sure that the pots are not too large, but just hold them comfortably; the roots are small, and do not need very much room. Moreover, as in the case of many other blooming plants, Geraniums, if the pots are too large, will either be sickly and possibly die, or will run to root, as gardeners say, at the expense of the tops and all hope of bloom.

Keep them outside as long as they can escape frost; and, when you do bring them into the house, keep them in as cool a position as is possible, short of freezing—such as in a room without fire, or one that is not in use, where you can shut off the furnace heat. They do not like the dry heat, though they can be induced to stand it by careful watering, and by giving air frequently—opening every mild day some door or window, *not* on, but near by them.

See that the leaves are kept clean. If you have any means of *sprinkling*, it will benefit them, as they delight in a shower-bath until they begin blooming. Then give more water, being sure, however, that your drainage is so perfect that the soil cannot become sour or sodden.

It is a good guiding rule to wait until the earth gets dry or crumbly on top of pots before watering; then drench well, seeing that the water passes readily through the soil and into the saucer; here it must *not* be allowed to stand, as any considerable quantity of it will rot the roots. If your earth is in proper condition, and has not been allowed to entirely dry out, water should disappear in a few moments when poured on the top of soil, coming out into the saucers.

If you will observe a florist's plants, you will notice that they appear moist and compact, but never muddy, or sodden-looking. The secret of this is the drainage, and the gritty sand almost always incorporated with the loam.

Place Geraniums in your sunniest windows, near the glass; for, while they protest against furnace or dry heat, they love the sun, and the more they get the better they like it.

When they begin to bloom, as they should without delay—if they had not already commenced before being brought in—they will be grateful for a little weak manure water, given about once a week, and will show their gratitude by increased and larger bloom.

If, after all these suggestions have been faithfully carried out on your part, the plants do not gladden your very soul with their beauty, they are simply sulking, and do not deserve a place of honor by your fireside, but should be relegated to the cool cellar, if you possess one, and hung up by their heels, or roots rather, to live or die as they think best until another season.

Some people think that a Geranium is of no further use after it is a year old; but, as a matter of fact, the longer you keep them the more beautiful they become. I have met with plants many seasons old that were "things of beauty and a joy forever," grown to an enormous size, and covered with masses of bloom. I have often seen the low windows of some mere shanty, a barber shop, or some small store, filled with the beauties, possibly growing in a tin can, brilliant with clusters of flowers. The reason why they appeared so prosperous and happy,

was that they were kept not too hot, and had no dry furnace heat or gas to contend with.

There are many classes in the Geranium family, and each one has its partisans, though all of the tribe are general favorites.

Among the sweet-scented we have the popular and well known

Rose Geranium. This is fine for cutting, but unfortunately it is very susceptible to Aphides, and consequently needs much watering: not only does it attract the pests, but they soon spread to your other plants, and the whole group may become infested.

Lemon Geranium has a coarser leaf, but is desirable.

Apple Geranium is very graceful, and delightfully fragrant.

Nutmeg Geranium is a dwarf with a spicy odor.

These varieties, which are grown simply for their foliage, should have more pot room than those of the flowering kind.

Ivy Leaf Geraniums have been brought to a state of great perfection, and are exquisitely beautiful, with their dark, ivy-shaped, waxen-looking leaves, and large trusses of lovely tinted bloom. They are increasing in popularity every year, being excellent subjects for vases or hanging baskets. They also look well in pots on brackets, or can be tied up with bast on a trellis, which shows off their bloom with good effect.

The double sorts are much handsomer than the single. They are all so lovely that it is difficult to make a selection. They come in white, and shades of pink; and the florists have lately produced a rich scarlet.

Zonals, or Bedding Geraniums, are so multitudinous that it is hard to give an adequate description of them. They are continually increasing in number, and each year, through cross-breeding and hybridizing, there are introduced many new ones which are improvements on their progenitors. Individual tastes differ to such a degree that it is well for each one to make his or her own choice, especially as most of the varieties are good. Some may like the single bloomers best, while others will prefer the double type. It is hard to go astray; and any respectable florist, or florist's catalogue will assist you in making a decision. My own chief effort is to enlighten those in ignorance as to the wants of their plants, and how to care for them.

Besides those above mentioned we have the following specimens, which are used for ornamental bedding as well as pot culture, and require the same treatment as the others:

Silver Geraniums

Bronze Geraniums

Still again come

Lady Washington Geraniums. They are so numerous and varied in their beautiful coloring that it would be indeed a labor of love to attempt their description.

With so many to choose from it is difficult to make an error.

I do not recommend these last named fancy Pelargoniums as window plants for the winter; they have to be kept almost at the freezing point, and very dry, to rest them for their spring blooming, which does not then continue long. So, while they

never fail to excite our admiration, I do not think their bloom prolific enough to repay the care which they demand.

HELIOTROPE

Heliotropiums, or Heliotropes, a name by which they are generally called and better known, can, like



Mignonettes, be grown in the house in medium-sized pots, and with very similar general treatment. They, also, require to be kept cool when inside, as much dry heat will quickly shrivel both bloom and foliage, making them look as if they had been through a fire. Excessive heat will soon finish these plants, while too

much cold will do the same. You must, therefore, strike a happy mean, and endeavor to keep them in about fifty-five degrees of heat during the winter.

Young plants kept in a warm position outside during the summer—to well ripen the wood—not allowed to bloom, trained and pinched into good-shaped specimens, taken into the house in September, carefully watered, and kept cool, should make an effective return for the attention shown them.

IBERIS

Candytuft. This also will make a bright spot amidst your winter verdure. It is called after Iberia, the Greek name for Spain. The genus com-

prises a good many species, all of which do well in ordinary garden soil, provided they have plenty of sun and air.

They are increased by seed, division, or cuttings.

Some of the sub-shrubby varieties make handsome, compact-looking plants.

Iberis Coronaria. Rocket Candytuft, is a fine annual species, pure white in color, bearing dense spikes at the tops of the stems.

Iberis Semperflorens (ever flowering), is a fragrant perennial, large and white, growing about two feet high; it blooms from autumn until spring.

Iberis Semperfurens is an evergreen candytuft, bearing long pure white flowers throughout the spring and summer. This is a shrubby species, one of the best perennial varieties, and exceedingly useful in almost any style of gardening.

There are many other varieties of Candytuft. All are easily grown, and will do nearly as well in pots as in the ground. They are effective in the house chiefly by way of contrast with the greens of other plants.

IMPATIENS

A name given to the Balsam family, meaning impatient. If you are acquainted with the tribe, you will wonder what I can have to say about them for house culture.

I wish to recommend a member of the family, which I think you will appreciate.



IBERIS

Impatiens are a genus containing many species; they are very easily grown, being readily raised from seed; and do well in any ordinary light soil. I shall refer to only one variety, for the window garden; though they are all excellent annuals for the summer garden.

Impatiens Sultani is a perennial herb which will bloom most of the year, being almost a continuous flowerer; and, while there are more elegant plants, it is such a cheery little thing that I am sure you will find it just the bit of color needed to lighten up your more sombre greens.



IMPATIENS SULTANI

It comes from Zanzibar originally, I believe, but is now quite at home with us. The flowers are a bright scarlet, differing from the rest of the Balsams in the petals being quite flat, single, and clustering in masses over the head of the plant in a manner that is very pleasing to the eye.

It is one of the prettiest and most easily grown of plants, doing well outside; and asking in the house only rich, open soil, not too much water, not too much pot room, with a moderately cool and dry atmosphere, to repay you with a wealth of bloom.

LANTANA

Said to be an old Italian name for "Wayfaring-tree." It is a genus of some fifty species of stove evergreen shrubs, or herbs, that have always been very popular, particularly for window gardening.

They are not at all difficult to manage, and give quantities of bloom during six or seven months of the year. They are readily increased, if you desire new plants, by cuttings in August or September; and like a generous soil of rich loam and manure.

If you wish to grow them in tree shape, pinch or prune until their form pleases you, as they will stand any amount of it.

When they are growing freely, be liberal with water. Young plants do well outside in summer. But old ones, cut back and repotted, make better house plants than very young ones; their growth being shorter-jointed, produces a larger amount of flowers.

They range through many shades of red, orange, white, purplish red, straw color and rose; and may be grouped effectively on account of this diversity. Lantanas to some are not very pleasant in their odor; but personally I am fond of growing them.

MAHERNIA

Mahernia Odorata, generally known as Honey Bell, belongs to a genus of some thirty species of pretty greenhouse herbs; not many of them, however, are cultivated. This one of the family is not brilliantly attractive; but it is worth growing for its fragrance, which will fill the house if you can spare it some shady spot. It bears small yellow flowers, bell-shaped; and if you set it where it can hang or droop over, pinching off the young shoots repeatedly, to force a lateral growth and keep it from straggling, you will scarcely regret the space it occupies.

Mahernias like a light, rich, well drained soil, kept

moderately wet; their leaves also should be sprinkled, or dipped in tepid water, every day.

Mahernia Glabrata has rather large, yellow, drooping flowers, somewhat like a Jonquil in fragrance. It comes from the Cape of Good Hope.

Mahernia Incisa, also from the Cape, is a dark crimson when in the bud, but in opening gradually becomes yellowish. It is an attractive shrub, flowering in the latter part of summer.

These plants propagate freely during summer, from cuttings of young shoots.

MIGNONETTE

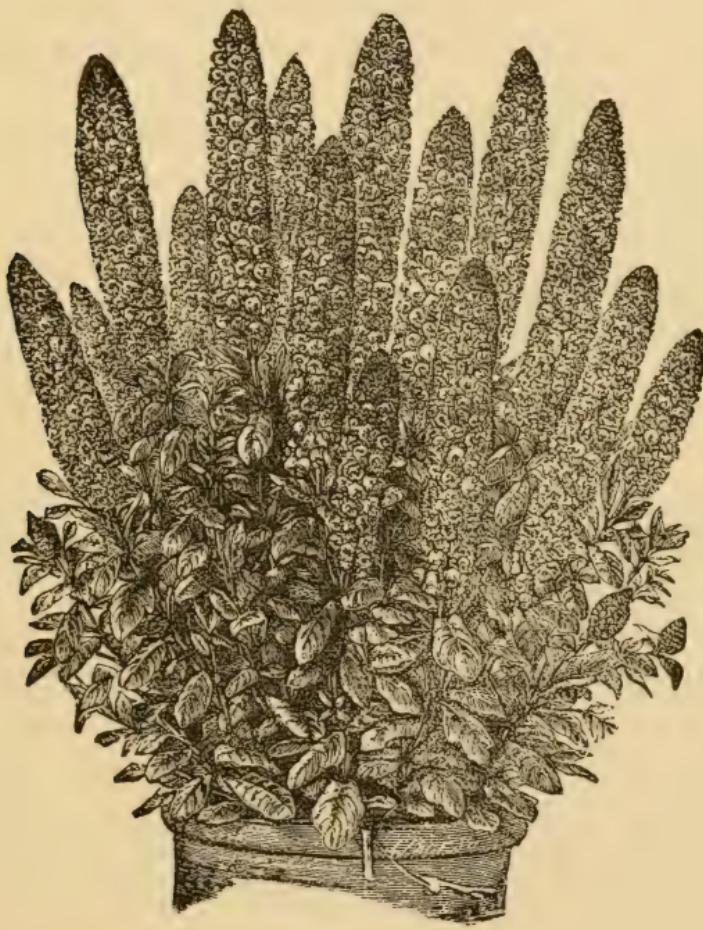
Reseda Odorata. A well known plant that many people are fond of. It has no especial value to me, except for its fragrance, which is very pleasing. Others, possibly, may like to know how to take care of it, and make it grow in the house.

To begin with, have the pot, or pots, perfectly clean and properly drained; then fill them with a compost of about two parts loam, one of dried cow manure, and one of old sifted mortar, if you can get it.

Careful handling is necessary, as the shoots are very brittle; and the individual plants, before they get large enough to fall about, must each be tied to a stick.

If you grow your plants from seed, sprinkle a few seed in August in five or six-inch pots prepared as just suggested; then do the same again in September for succession, if you wish to prolong the blooming period. Cover lightly, water, and place in some cool spot, where they can remain, possibly until October, if there be no frost.

When they come up, and are grown large enough, thin them out until they are about an inch apart, taking out the poorest. Give plenty of water at the roots in summer; but it never must be allowed to stagnate. In winter give very sparingly without ever entirely withholding.



MIGNONETTE

As the days lengthen, and your plants begin to grow freely, *then* give an abundance of water.

In the house, a shelf in a light position, where they can get plenty of outside air—though this must not be cold enough to chill or freeze them—in a tem-

perature of from forty to fifty-five degrees, will suit them admirably.

When flowering, weak manure water will be very helpful, and increase the size of the bloom.

NICOTIANA

Called after Jean Nicot, who introduced Tobacco into France; it is a genus of some fifty species. The Tobacco that most women loathe is an important

member of the family. But even this disgraceful fact has not been the means of condemning or ostracizing all the rest; for some of them are greatly admired in tropical gardening; and they do remarkably well as house plants.

They like a rich, deep soil, and a rather moist situation. Given these, they will grow rapidly.

Nicotiana Affinis is the variety with which I am most familiar. The flower has a long slender tube, and is white inside, greenish outside, and hairy all over except within the corolla. It will thrive and bloom freely in a six-inch pot, making a very pretty decoration for the house, and can be plunged outside in summer. The flowers are partly closed during the day, but open about six p. m., and emit a strong perfume during the night. This is a half hardy annual herb.

Nicotiana Fragrans, from the Isle of Pines south of Cuba, will grow three or four feet high, and is a very fragrant, cool, greenhouse herb.



Nicotiana Glauca, from Buenos Ayres, is a shrub, bearing yellow flowers covered all over with a soft down.

Nicotiana Tabacum is the common Tobacco, and has downy rose-colored bloom.

Nicotiana Acutiflora, from Brazil, is a handsome annual herb, which blooms from June until frost.

Nicotiana Wigandoides is a pretty greenhouse shrub with yellowish-white flowers; it is an excellent plant for tropical grouping outside in summer.

PANSIES

Many people who are fond of Pansies, and would like to have them in their living-rooms, turning their windows in the early spring days into miniature gardens, can readily succeed when once they learn how to grow them.

If, during August, you have pansies growing outside, take from them and root, in some cool moist spot, enough scions to fill a box—or boxes if you wish to have many—about five or six inches deep, long enough to fit your windows, and about five inches wide. Have some holes in the boxes, and sufficient drainage. An inch of rubble, or small pebbles strewed thickly over the bottom, will do. Fill with rich sandy soil, and plant in it your rooted cuttings.

Just before frost, dig out the ground in the most sheltered corner you have, and sink your box in this pit, packing the loose soil firmly against it on all sides. And before the first frost, cover the box well with leaves, or salt hay, throwing a little brush on top to prevent its blowing away. This will keep the

cuttings from freezing, and encourage root formation.

If they should be covered with snow it will cause no injury, but, on the contrary, will keep them warm and protect them against cold.

There should be no danger of water settling about,



PANSIES

or in your boxes, and freezing, which would destroy the Pansies. If the place is well drained, you need have no further care, until you are ready to use the plants.

In covering them over, be sure that you leave

plenty of ventilation; they must neither be smothered, nor kept too warm.

In the latter instance, they would commence growing; and when you needed them, you might find that they had exhausted all their energies unseen and unappreciated.

At any time from February on, when you wish to see their pretty faces near you, lift your box, wash it off, and bring it into the house. Give them a light window, where they will get only the morning sun. A northern one is good, because it is cooler; and they must *not* be kept too warm. Attend carefully to watering. Pick off all flowers as soon as they begin to fade, or sooner if you wish them: the more you cut, the more bloom you will have.

Pansies are gross feeders, and enjoy weak manure water.

Do not let them form seed, if you wish flowers.

Varieties are endless. You must select for yourself.

PETUNIA

From *petun*, the Brazilian for Tobacco. A name given on account of the relation of this plant to the genus *Nicotiana*, both being of the same order, Solanaceæ, to which also Nightshade, *Solanum*, belongs.

These plants are very showy and effective, either for the summer border, or when grown in pots for the house. Florists have of late years made great improvements in them; they are quite different from the specimens known two or three generations ago; and some of the double varieties are very beautiful.

Petunias, which are easily raised and cared for, should, in order to make bushy and compact plants,

be pinched before they grow very tall. They like a good soil with some manure in it, and plenty of water. They need also to be supported in some manner, either by being fastened to slender stakes, or by being trained against a light trellis.

They give an abundance of bloom towards the end of summer, through the fall months, and during the greater portion of winter. When they are exhausted, and are forced to stop to recuperate, cut them sharply back to within an inch or two of the

pots; give manure water about once a week; and they will soon throw up new shoots, which in a little while will again be working diligently to supply you with flowers.

Some persons say that the single varieties are best for the house. I am not prepared to dispute the point, but think the double ones much handsomer. They all need to be cut back quite frequently, as the flowers

are produced on the new shoots: you will have but little bloom if you neglect to prune in such a way as to force the production of new branches.

Petunias can be raised from seed. But where you wish only a few plants, it is as well to purchase them of a florist; from these you can propagate other plants in the spring.

It is advisable to use cuttings in making new plants for winter bloom. Though the old ones may be forced to prolong their blooming period, their younger and more vigorous progeny will be more



PETUNIA

reliable. If you start cuttings about two weeks apart, for succession, you can have Petunias in flower during the greater part of the year.

By starting some in February, and more again in March, you will be supplied for the summer. From these again, or from the old ones, start others from May until August, to provide for the winter. Their different ages will cause a succession, which should furnish you with active workers; and, as one after another becomes exhausted, you can cut it back, and set it away to rest, putting one of its younger relatives in its place.

PHORMIUM

From *phormos*, a basket. Order Liliaceæ. Commonly called Flax Lily, or New Zealand Flax. This is a very small genus of herbs with fleshy roots, coming from New Zealand, and nearly hardy.

Phormiums are easily grown in good rich loam. Large specimens, with their erect swordlike leaves, make an exceedingly fine effect, either outside or in the house, among Palms, Cycads and other tropical plants.

Water them sparingly during winter, but do not let them dry up.

To increase your stock, divide the crowns before active growth begins in the spring.

Phormium Tenax, meaning tough, is the common New Zealand Flax with variable yellow, or red flowers, and dark green rigid foliage. It attains a height of from three to six feet, the tips of the leaves splitting as they grow old.

Phormium Tenax Variegatum is a pretty dark green plant, handsomely striped with white and yellow.

Phormium Tenax Veitchianum is a fine variety with shorter leaves of a pea green color; these have a band of creamy white extending down their whole length.

Phormium Tenax Nigro Pictum, a black spotted, compact grower, with smaller leaves, is of a more dwarf habit than the rest of the type.

Phormium Cookianum Variegatum is a beautifully marked plant, smaller and handsomer in every way than *Phormium Tenax*; and its leaves are not liable to split at the ends.

PLUMBAGO

A well known large genus of greenhouse, or hardy perennial herbs, with an occasional shrubby variety among them. They are desirable for color effect, one or two of the number being good winter bloomers, and adapted to house culture.

Plumbago Capensis, from the Cape of Good Hope, is a climbing or decumbent shrub, with loose clusters of pale blue flowers, which are produced on the new growth. It is a strong, rampant grower, and needs careful pruning to keep it in shape; it is also a remarkably free bloomer, flowering all through the summer and the greater part of winter.

Its color is rare among plants, for there are very few blue flowers produced by Nature.

Cut these plants sharply back about every two months; keep them growing; and give manure water to strengthen the bloom. They like a warm situation. If you have several plants, by keeping them in separate places where there are different degrees of heat—placing them in a moderately cool position to retard growth, and moving to a warmer one when

you are ready for them, thus prolonging the blooming period—you can secure a succession.

Plumbago Rosea is a good winter-flowering plant, with rose-colored flowers growing in long terminal spikes. It blooms in July, and needs more heat than *Capensis*; it is a stove perennial, and comes from the East Indies.

Plumbago Coccinea is a very fine one, with much larger and more highly colored flowers.

Plumbago Larpentae (Lady Larpent's) is a hardy perennial, with close heads of violet bloom.

Plumbago Scandens, Toothwort, is a white-flowered variety.

I cannot answer for the behavior of any of them in the house, excepting *Capensis*. Most of them, however, thrive in the garden. A good loam, sand, and a little peat, suit them best. They should be rested at some time during the winter, by being kept rather dry.

They are readily propagated by rooted shoots taken from the bases of the plants.

REINWARDTIA

This is a winter-flowering greenhouse shrub, generally known as *Linum Trigynum*. Named after K. G. K. Reinwardt, who was director of the Botanic Garden at Leyden. They are members of the Flax family, but form a very small genus.

The best ones, in my opinion, are:

Reinwardtia Trigynum and

Reinwardtia Tetragynum

Though very ornamental, Reinwardtias are but seldom seen; and this appears strange when we re-

member how few good winter-blooming plants there are. I consider them a decided acquisition, with their bright yellow flowers, which, during the dullest months of the year, cover the plants in the utmost profusion.

Old stock can be cut back and will make fresh growth; but new plants, raised each year from cuttings, give better satisfaction. Cuttings from wood that is quite firm, without being too hard, planted in a shady place under a hand glass, soon take root; and when strong enough they can be potted and grown on for winter use.

While they are young, pinch them freely, to cause a compact growth, and make a full head. Let them have plenty of sun and outdoor air, as late as possible in the fall, to ripen the new shoots and prepare them for later blooming. They will need about fifty-five degrees of heat to develop their flowers. Keep them from damping off, after fires are started.

Their bright coloring, prolonged blooming, prodigality of flowers, and easiness of cultivation, make them very desirable and attractive for the house.

They are not exacting as to soil, but it should be at least good. Water them carefully, and syringe the tops frequently, or the Red Spider, that fell destroyer to which the plant is subject, will soon end their existence. In spite of this drawback, I should say by all means try a few plants, and exercise a little care to preserve them. Success will repay you.

SALVIA

Sage belongs to an exceedingly large genus of nearly five hundred species, thriving in the warm or temperate portions of the earth. These plants are

greenhouse, hardy or half hardy, annual, biennial, or perennial herbs or shrubs, generally with showy flowers, of various colors. As you will probably not care to keep the whole family, I shall describe only those which I consider the most desirable, and endeavor to suggest how to provide for them.

Salvia Officinalis is the hardy common garden Sage, so much used in cooking.

Salvia Patens is a handsome half hardy perennial, with deep blue flowers of good size, blooming in the fall; and, if grown in pots, it can be forced to continue the flowering season in the house.

Salvia Patens Alba is a white variety of the same type.

The following are two of the best:

Salvia Splendens, and its variety

Salvia Splendens Bruantii, which is of a more dwarf habit, and a fine garden species.

All Salvias like rich soil, and plenty of root room; they are easily raised from seed; and cuttings of the young wood, in a growing state, root readily. Equal parts of loam and manure will not be too rich for them, if grown in pots. In the ground, in summer, they will thrive almost anywhere, but should have a sunny situation.

They make good house plants, if properly prepared, and cared for. By daily immersion in water, or copious showering where convenient, they may be kept free from the Red Spider, which if not guarded against will soon destroy them. When it is necessary to take them in for the winter, you must have young plants, ones that have not yet commenced, or are just beginning to bloom. These are

obtained from cuttings rooted in August; or, you can get young plants from the lower part of your old ones, with enough root of the parent plant attached, to grow right on as soon as potted.

The young progeny will soon make good-sized specimens, which, when you have to take them in—probably early in November, as they must not be touched by frost—will be just getting ready to bloom.

Cut the flowers as soon as they fade, and new branches will shoot out, to bloom in their turn.

Feed *Salvias* with manure water, and you will have flowers for a long time.

VIOLETS

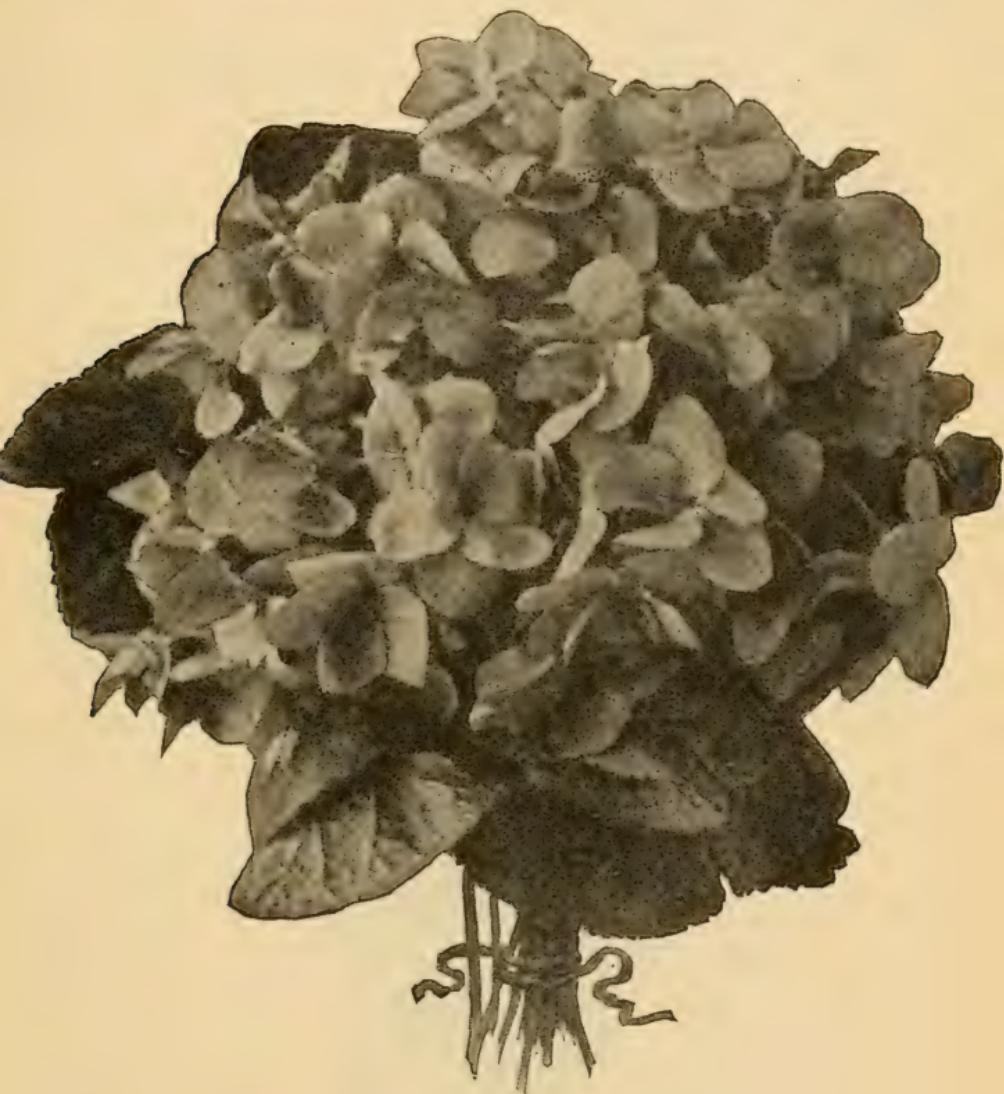
Violæ. A very large genus, most of them being hardy perennials, and low-growing plants, rarely reaching a height of more than five or six inches.

Viola Odorata, varieties of which generally are seen in gardens and windows, is a great favorite with almost every one, especially during winter and early spring. Like Pansies, and Daisies, Violets can be used to fill boxes or pots for the house, or be grown in a cold frame outside.

If wanted for a window, fill with rich soil, late in September, a well drained box, six inches deep by six inches wide, and as long as the window. Put in your plants, about six inches apart; keep them outside as late as possible; and, when brought in, give them a cool sunny situation with plenty of air, and plenty of water.

Frequent showerings will subdue the Red Spider, their deadly foe. If you have much dry heat these pests soon become rampant.

English Violets, which are very hardy, do well outside. To protect the roots, I cover mine in the fall with a heavy mulch of coarse manure and leaves,



VIOLETS

but not with enough to smother or overheat the crowns. When the covering is lifted in early spring, I generally find the plants full of buds, which come into bloom with the first warm spell. I use these Violets for bordering certain beds, and have been

greatly pleased with the effect. They are kept within bounds by cutting off the runners. The hose is turned on them every afternoon when the sun has left the bed; manure water, also, is given while they are blooming.

In this extensive family are a number of favorites which have long reigned supreme, such as:

Marie Louise Violets

Neapolitan Violets

Russian Violets

Some of the members are delicately constituted, and more liable to disease than their hardier and more rugged relatives.



CHAPTER V

FOLIAGE PLANTS

<i>Achyranthes</i>	<i>Begonia</i>	<i>Dieffenbachia</i>
<i>Alocasia</i>	<i>Browallia</i>	<i>Dracæna</i>
<i>Alternanthera</i>	<i>Caladiums</i>	<i>Farfugium Grande</i>
<i>Aspidistra</i>	<i>Cannas</i>	<i>Maranta</i>
	<i>Coleus</i>	

ACHYRANTHES



HIS makes a good color effect, and does very well inside. It is of no especial value for window gardening, but may be useful to those who cannot procure more expensive plants. A well grown specimen looks remarkably bright surrounded by a mass of green, or even alone.

Achyranthes needs watching to keep down the Red Spider. It may be treated as suggested for Ageratums—that is, given a plunge bath—unless you have means of fumigating with tobacco.

Prepare new plants in August, from your old stock, that they may be strong and vigorous for the winter; or, if you use the old ones, cut them back, to produce a fresh, young head, which will be stronger than the old growth.

They are tender, and must be protected from frost.

Achyrantheses like a generous soil, and *very little* water in winter. They should be kept in about

fifty-five degrees of heat, a sunny window suiting them perfectly. Be careful that they do not freeze on cold nights.

Some of these plants are quite beautiful, and, by trimming, may be trained to grow in any desired shape. They are readily propagated by cuttings.

ALOCASIA

Handsome stove plants, closely allied to *Colocasia*, and requiring treatment similar to that of *Caladiums*.

Their beautifully variegated leaves make them fine subjects for decorative purposes.

They like a moist atmosphere; but I have found that to a certain extent they can be trained to do without it. By growing them out-of-doors, in a shady position, from June to September—turning the hose on them daily, and never allowing them to get

thoroughly dry—they will become sufficiently hardened to continue their growth, in some moderately cool window, without disaster.

They need a soil of peat, with a little light loam, a good quantity of sphagnum, lumps of charcoal and plenty of silver sand, all mixed together.

In planting, keep the bulbs well up in the pot, pressing the mixture around to raise them a little in the centre of the pot, and fill out all around to the



ALOCASIA.

edge with sphagnum. This will induce them to throw out new rootlets.

Fill your pots more than half full of bits of broken crocks, to insure good drainage, and water liberally when the plants are in active growth. Also give them manure water once or twice a week. In summer do not let a strong sun strike them. During the winter they will thrive in a temperature of from sixty to seventy-five degrees, but not lower: they must not be allowed to suffer from cold.

Alocasias, with their immense leaves, extending in some well grown varieties to a length of from twenty to thirty inches, with their beautiful shadings and markings, are a noble sight, glorious revelations of the power of the Creator.

Many people consider them tropical stove plants, which will not live outside of a greenhouse. With proper care, however, they will do as well as ordinary Cannas in dwellings.

All Alocasias are so interesting that one scarcely knows which to select for description.

Alocasia Macrorhiza Variegata is long-rooted, as its name implies, and a strong grower; it has large bright green leaves, spotted and marbled with white. The footstalks, also, are broadly streaked with white.

Alocasia Metallica has leaves of a magnificent bronze color on the face, purple on the back; it is an excellent variety for decoration.

Alocasia Sedeni is a hybrid with oval bronzy-green leaves, which are purple on the under side, and have pure white veins.

Alocasia Thibautiana, from Borneo, is the hand-

somest member of the family, with leaves of deep olive grayish green, a grayish white midrib, and many gray veinlets running out from it. This is one of the most expensive varieties.

Alocasia Zebrina has dark green erect leaves on strong footstalks of pale green, striped with bands of darker green. This species comes from the Philippine Islands. It will grow to a considerable size, often measuring more than four feet in height.

ALTERNANTHERA

Half hardy plants, valuable for color effect only, but in that respect very serviceable. A well grown plant looks brilliant when surrounded by green. They are similar to Achyranthes in their habits and requirements.

Start young plants in August. Shift from one pot to another as they fill with roots, keeping the plants all the while pinched, or trimmed, to make them strong and form a neat head.

Let your potting soil for these plants be rich and sandy. Give them all the sun and heat possible, but do not drench with water, as they are soft-wooded. Judge from the soil when to water them. If it begins to look dry on top, and crumbles in your fingers, it is a good sign that they would like a shower. But see that water does not stand in the saucer.

If insects annoy you, give the tops of the plants a plunge bath.

Alternantheras will not have a good color unless they have the full benefit of the sun, plenty of light.

Alternanthera Amabilis Tricolor is a good variety. Its leaves are dark green on the edges, with a deep

rose centre marked with purple veins, and a band of orange between centre and margin. This, with several other species, came from Brazil.

Alternanthera Paronychioides is an orange-red, shaded with olive. A compact grower.

Alternanthera Paronychioides Magnifica, is of a much brighter color than others of this type.

Alternanthera Paronychioides Major, which has bronze leaves with deep orange tips, is a very effective member of the family.

Alternanthera Paronychioides Major Aurea is a bright yellow, and holds its color well throughout all seasons.

Alternanthera Versicolor has pink, crimson and bronzy-green leaves. It is a good compact grower, and develops into a fine plant; but judicious trimming is essential, to keep it shapely and make it branch out freely.



ASPIDISTRA

There are few plants that will stand so much neglect, and continue growing cheerfully, as if receiving every attention. Nearly hardy and evergreen, they brighten many situations where more tender plants would perish. For me they do so well, and multiply so rapidly, that I am often at a loss how to dispose of them. They thrive in almost any garden soil, but do still better in rich loam, leaf soil and sand.

Being great lovers of water, they must not be stinted, though, as with all others, I moderate the supply in winter. Not needing much sun, they thrive perfectly in shady places, and may be increased from suckers.

The following are excellent varieties, and will give satisfaction:

Aspidistra Elatior, from Japan, which grows from one to two feet in height.

Aspidistra Elatior Variegata, with green and white striped leaves.

Aspidistra Lurida is also very effective in outdoor gardening.

BEGONIA

Of all the lovely plants we have, I think there are none more satisfactory than the Begonias, if one knows how to take care of them. They should be allowed to grow all they will out-of-doors, and be well hardened when taken in. I keep them in pots sunken where they get only the morning sun, putting a mulch of manure on top of the pots, to prevent drying out from heat.

Give plenty of water, both overhead and at the roots. In the fall, when they are strong and vigorous, I lift them; wash off the pot; set in a window where they do not get too much sun; and give outdoor air on mild days. They go right on growing, but do not want so much water now. If they should begin to drop their leaves, stop watering for a while; only do not let them dry up.

The tuberous Begonias may be treated in the same manner; unless you prefer to dry off the bulbs, and



BEGONIA

put them away in dry sand for another season. But be sure that it *is* dry, or they will rot.

From my own experiments, I know that the following will all thrive in the house:

Begonia Rubra

Begonia Alba

Begonia Vernon

Begonia Metallica

Begonia Maculata

They are gross feeders, and very fond of manure water.

Rex varieties have not proven very satisfactory under my care, though I have made numerous attempts to keep them; but the shrubby species do nicely.

BROWALLIA

A genus of handsome shrubs, which bloom during the winter and spring months, making good pot plants for sitting-rooms.

They need a rich, sandy, porous soil, and quantities of weak manure water as soon as flower buds appear.

To make them dwarfed and bushy, they must be stopped or pinched back three or four times during the summer. They should be taken in before it grows cold enough to chill them.

Syringe daily to prevent the attack of insects.

These plants are greenhouse annuals; they must not be put outside in spring until the weather is settled, possibly not until June.

The flowers are blue, or white, except in

Browallia Jamesonii (Jameson's), where they are of a peculiar orange. This variety is a synonym of

Streptosolen Jamesonii. It makes a good basket plant, if allowed to wander at its own sweet will.

Browallia Elata, from Peru, is a tall variety, growing to about a foot and a half in height; it has deep blue flowers.

Browallia Grandiflora is a large-flowered species, from one to three feet high.

Browallia Roezli, a very pretty member of the family, has light blue, or white flowers, with a yellow tube; it makes a dense bush, from one to two feet high.

All the above are prolific bloomers, and valuable on account of their color, blue being so rare among blooming plants.

CALADIUMS

Fancy Caladiums, as they are called, are stove perennials; yet, under certain conditions, they may be kept in the house. Like Alocasias and Colocasias, they are cultivated for the marvellous coloring and great beauty of their leaves.

They grow from tubers, and have to be dried off, and well rested. In February they may be started in small, well-drained pots. These should be filled with a compost of good loam, leaf mould, peat, and a little thoroughly decomposed manure, in equal quantities, with a liberal portion of sharp sand—all to be well mixed together, but not broken up too finely.

Put your plants in a warm place, and water sparingly, just enough to keep them moist. After the leaves unfold you can give more water. When your pots are full of roots, shift to ones of larger size; and give manure water two or three times a week, having first used clear water.

Caladiums need to be shaded, during the middle of the day, from the sun's full strength. But for the remainder of the time, they should have all the light possible: it increases the beauty and richness of their foliage. After they have reached a good size, they may be moved to a cooler room, and given water



FANCY LEAVED CALADIUMS

when absolutely necessary, but not otherwise. You must not let cold draughts strike them.

When the leaves begin to fade and drop off, give less and less water, until they are all dead. Then stow the pots away where they will not suffer from extreme cold. Keep them a little moist, in order that the tubers may not dry up; they are apt to rot

if they do. In this manner you can preserve the plants until the time comes to start for another season's growth. Caladiums cannot live in a temperature lower than fifty-five or sixty degrees Fahrenheit. They may be shaken out of the pots, and stored in dry sand, if this is more convenient.

Caladium Maculatum, from South America, is a fine variety, prettily spotted with white.

The following are all beautiful:

Caladium Chantinii

Caladium Leopoldi

Caladium Marmoratum

Caladium Bicolor

Caladium Verschaffeltii

There are so many lovely hybrids of this family that it is not difficult to make a gratifying selection.

Caladium Esculentum will be referred to under *Colocasia*, as it is synonymous with *Colocasia Esculenta*.

CANNAS

The improved varieties of Cannas are much liked and widely grown. A new race and far superior to their progenitors, excellent for bedding; the dwarfer varieties can be grown in pots, and in the house, where they will continue blooming most of the time. They commence to bloom when quite small, and the coloring of some of them is very brilliant.

They like a rich soil, which can hardly be too rich, with quantities of water at all times. Equal parts of well rotted manure, loam, and sand to make it porous, in from eight to twelve-inch pots, with liberal supplies of manure water, combined with the warmth

and light of a sunny window, should produce a bountiful return of flowers, and foliage that will make a charming tropical effect. Outside, simply let them grow in the ground. Dig them up in the



CANNA

fall; dry the bulbs thoroughly; pack them away where they will neither freeze nor dry up; and divide and repot them in the spring.

Generally speaking, I think the Dwarf varieties are more satisfactory, if not the only kind worth growing;

although, for the centre of tropical beds, the tall Cannas are useful. A disadvantage of the latter is that, being so tall, they are easily broken and disfigured by strong winds; while the Dwarfs, seldom reaching a height of more than two or three feet, are more manageable.

These Dwarfs make fine beds. Planted out during the last part of May, or the first of June, and given a rich soil, they will bloom until late fall. They revel in manure water, and enjoy any quantity of fresh water, for which they should never be allowed to suffer. They will do well almost anywhere.

Their colors have been greatly improved of late, as well as their size, by hybridization. This is seen in varieties such as

Madame Crozy, crimson, with gold edging.

Eldorado, yellow.

Chas. Henderson, deep crimson.

Hybridizers, however, are persistently working to produce still better specimens, and greater diversity of color; so that no one can predict what treasures the future may have in store for us, in shades of crimson, yellow, pink, and possibly even pure white.

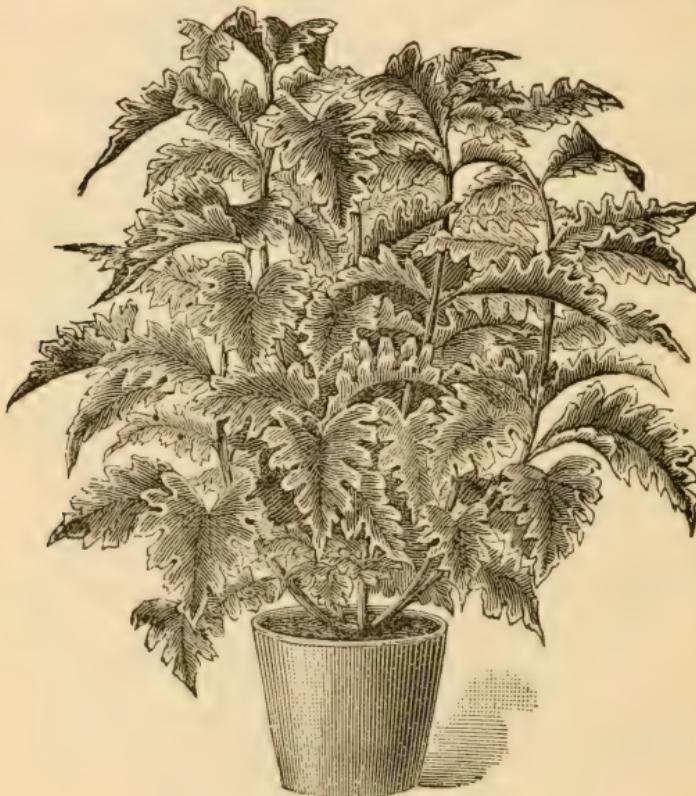
COLEUS

These plants will thrive almost anywhere outside, though they have a preference for good soil, a light sunny situation, and a sufficiency of water; they are apt to drop their lower leaves if kept too dry for a length of time.

It is best to take cuttings in August, when they will root readily, and grow them for winter use; they will be more vigorous than old plants. Keep them in

pots of well drained, rich, friable loam; shift to larger pots as the first ones become filled with roots; this will make them strong healthy plants, of good shape and growth, before they are taken into the house.

They can be trained into any form you desire. By



COLEUS

pinching the terminal shoot mercilessly, and thus forcing it to throw out collaterals, you will bring the plant to suit your individual taste.

Be sure to take Coleuses in before the slightest frost touches them, as they are very tender. Give them the warmest, sunniest window you have, and water very sparingly; they will drop all their leaves and gradually die if they get too much water at this

time, not being able to take care of it in dull cold weather. Should they be near a window, see that chilling or frosty winds do not work in around the frames. If properly taken care of, they will grow all winter, and can be cut up in the spring into slips to make fresh plants.

There are many varieties, all more or less beautiful, with which most of us are familiar. I shall mention only two:

Coleus Verschaffeltii is one of the most effective of the crimson-leaved species.

Golden Bedder is a good mate for it, in clear yellow.

DIEFFENBACHIA

Named in honor of Dr. Dieffenbach, a German botanist. A genus of magnificent evergreen stove perennials. Some of them have beautifully variegated leaves, irregularly marked with white or yellowish oblong spots. They have fleshy stems, which if broken will exude an acrid juice that is very poisonous: consequently no part of the plant must ever find its way into the mouth.

They are all handsome, and so numerous that it is difficult to choose amongst them; but I may suggest a few:

Dieffenbachia Baraquiniana (Baraquin's), from Brazil; light green with white spots.

Dieffenbachia Leopoldi (Leopold's), deep green; mid-rib white, with a whitish band on each side. A very handsome variety.

Two other beauties are:

Dieffenbachia Regina, and

Dieffenbachia Rex

The following are all grand plants:

Dieffenbachia Nobilis
Dieffenbachia Splendens
Dieffenbachia Triumphans
Dieffenbachia Majestica
Dieffenbachia Magnifica

Dieffenbachia Bausei (Bause's), is of a yellowish green, blotched with dark green, and thickly spotted with white; it is a garden hybrid.

Dieffenbachias need the same treatment as Caladiums. They should be kept where the temperature will be not lower than sixty degrees at night, and much higher during the day. Their leaves must be sprayed or sponged off once or twice a day, to supply the humidity which they require, and will miss outside of a greenhouse.

Give them turf loam, peat, leaf mould, a small quantity of well rotted manure, and some good sharp sand, all thoroughly mixed together; and perfect drainage. They need an abundance of water, but it must not stand to sour the soil. Be careful not to give too much water before the leaves begin to expand; afterwards never allow them to be stinted. Also see that they are not exposed to currents of cold air.

When the pots are full of roots, give clear manure water once a week. Keep your plants very warm; and make the air humid in some way, if you have to place bowls of water amongst them.

Do not expose Dieffenbachias to too strong a sun; they enjoy a little morning sun, and plenty of light.

DRACÆNA

This plant is often confused with Cordyline, the two genera having become very much mixed to those

uninitiated in the mysteries of floriculture. Dracænae are beautiful for color effect. They form a large genus of stove plants; but there are some which with proper attention will do well in our dwellings.

A compost of loam and lumpy peat, in equal quan-



ties, with a little charcoal, placed in a pot of moderate size, will suit them. In summer, when they are growing fast out-of-doors, give plenty of syringing, and water the roots. But be careful in winter; for if any water lodges in the axils of the leaves, it will spoil, if not kill your plants. Wipe dust off with a wet sponge; give plenty of light, to bring out the

color of their leaves; and keep them in as moist an atmosphere as possible. If the leaves begin to fall, withhold water for a while—unless you have been keeping the plants too dry: in that case it will be a sign that they need more.

A little judgment, combined with experience, if you really desire knowledge on the subject, will soon teach you the requirements of each individual plant. When you lose one through ignorance of its needs, and later find out the cause, you must store up the information for future use. If you do not, and simply let it slip away, you may be in the same predicament again; for what is life to one plant may mean death to another, as each has its special requirements, and must have them satisfied in order to thrive.

Dracænæ are all pretty; but those with recurved leaves are, I think, the best for house culture. There are many popular varieties of them originated from *Cordyline Terminalis*.

FARFUGIUM GRANDE

A useful little plant, with fleshy stems, and large shining leaves spotted with yellow; it comes of a genus of hardy herbaceous perennials, classed by *Bentham* and *Hooker* under *Senecio*. Another title is, *Ligularia Kæmpferi Aureo Maculata* (*Kæmpfer's Gold-Spotted*).

Despite all these names Farfugiums will thrive in any good porous loam, but like best a peaty soil. While not requiring much sun, they must not be allowed to suffer for want of water, as they need moisture at all times. Should they die down in win-

ter, put them away, and they will come out again in the spring.

Farfugiums are not remarkably beautiful, but have a pleasing appearance; and any plant that will thrive in the house is desirable. They can be increased by division of the roots in either autumn or spring.

MARANTA

Named after B. Maranti, a Venetian botanist. Several of the species supply us with Arrowroot,



MARANTA

which is extracted from their tubers. They are fine foliage plants, having beautifully marked leaves, and are not difficult to grow. Marantas like a more moist atmosphere than is usually found in our dwellings; yet with proper attention they will thrive.

Their first requirement is a rich soil. Leaf mould, sand, and turfey loam will furnish this. They need an abundance of heat and water when growing, to-

gether with moist air: if the latter is not obtainable, they can be taught to do without it.

Sink them outside in some shady place in summer; and shower them daily, giving copious supplies of water. They should make a good growth by autumn, forming fine heads, or crowns of leaves.

Take Marantas in before it is cold enough to chill them; keep them in a warm place; and do not give too much water. Let them be rather dry than *too* wet. Sprinkling or spraying their leaves will help them. But if they continue active growth they must not be stinted at all.

Good drainage is an absolute necessity; for, while they require an abundant supply of water, a sour soil, or stagnant water, is decidedly injurious. They do not enjoy strong sunshine, but on the contrary dislike it very much: therefore they should have a shady location where they will get only the early morning sun.

To have the leaves in good condition, there should be plenty of moisture in the atmosphere: so, if your house is heated with dry hot air, and you have no way of counteracting this, your only resource will be spraying, or frequent sponging. While, under proper conditions, these plants are not subject to insects, dry hot air often engenders Red Spider; and, when these invisible enemies begin operations, they will soon make havoc with your handsomest plants by rapidly disfiguring or destroying the leaves.

Marantas are often confounded with Calathea, also a genus of fine foliage plants, to which they are nearly allied.

Maranta Zebrina, Zebra Plant, is generally so catalogued, though in fact it is a Calathea; but to either

genus it is a fine addition, being exceedingly handsome with its velvety light green leaves, barred across with bands of rich dark purplish green, while the undersides also have a decided purplish hue.

The following are all good:

Maranta Bicolor

Maranta Concinna, a dwarf perennial,

Maranta Nitens, a handsome species,

Maranta Sagoriana, another dwarf perennial.

Among their relatives, the Calatheas, there are so many to claim our admiration that it is difficult to select; but probably the prize should be awarded to these:

Calathea Princeps**Calathea Tubispatha****Calathea Veitchii**

CHAPTER VI

LILIES

Agapanthus
Anthericum
Crinum

Imantophyllum
Lilium
Lily of the Valley

AGAPANTHUS



gapanthus Umbellatus. These African Lilies are easily cared for. They thrive best in strong turfey loam, leaf mould, well rotted manure and river sand. During summer they can hardly get too much water. Give them clear manure water when blooming.

After they have finished flowering, gradually lessen the quantity, and let them rest awhile; but as soon as they show signs of activity, give them more.

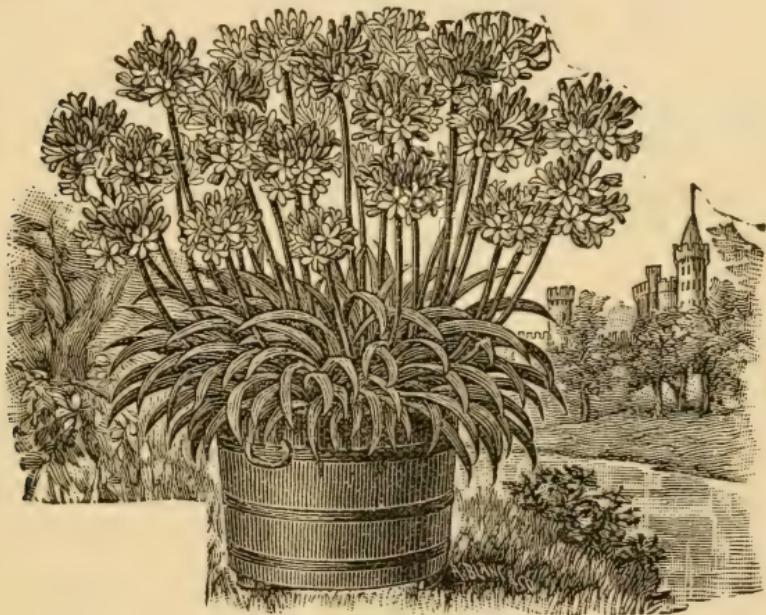
Do not allow too much pot room, or change them too often, as they will not bloom until pot-bound. They may be divided in early spring, and every offset will make a new plant; or they may be permitted to grow on until they burst their bounds. The flowers are a bright blue, forming a large cluster, or umbel, at the top of a tall naked scape. This plant blooms for many weeks.

Agapanthus Umbellatus Albidus, a pure white variety from the Cape of Good Hope, is very showy. It must be carefully dried off during the winter.

Agapanthus Umbellatus Flore-pleno has double flowers; it keeps better than the single types.

Agapanthus Umbellatus Maximus has immense umbels of bright blue flowers; it is a grand plant when well grown. There is an equally large white-flowered specimen of this variety, which is very desirable.

Agapanthus Umbellatus Mooreanus is of a dwarf habit, dark blue, and very hardy.



AGAPANTHUS

There are other species; but among those here mentioned you should find what will please you.

ANTHERICUM

Synonymous with *Phalangium*. A numerous genus of the order Liliaceæ. It comes mostly from the Cape of Good Hope. The hardy species are largely used as ornamental plants, both outside and potted in the house, where they do remarkably well.

Anthericum needs pots of rich soil composed of

fibrous loam, leaf mould, well decayed manure and coarse sand. When growing actively, and until it has finished flowering, it must have plenty of water. Then give less, but never allow your plants to get entirely dry. They easily may be increased by simply dividing the roots.

The following are all good:

Anthericum Liliago (St. Bernard's Lily),

Anthericum Liliastrum (St. Bruno's Lily), a much larger and fragrant variety.

Anthericum Variegatum, which is half hardy. It comes from South Africa. Its proper botanical name is *Chlorophytum Elatum Variegatum*.

CRINUM

Crinums, from *Krinon*, the Greek name for Lily, are a large genus of exceedingly beautiful flowering bulbs, closely related to the Amaryllis family. Most of the species are nearly evergreen, and continue growing without much drying off. They are not exacting as to soil, but thrive in sandy loam and leaf mould, with ample drainage. They should be covered to the neck in planting; and the pots should be large enough to accommodate their mass of thick, fleshy roots. They must be kept clean by frequent syringing; and be given plenty of water at the roots, with doses of manure water, particularly when blooming.

It will not be necessary to repot these plants every season, if a sufficiency of water is given, and a top dressing of rich soil in the spring, when they start into new growth. While resting in winter they should be fully exposed to the sun. They may be planted outside in summer, taken up in the fall, and stored, if you

do not care to have them grow on through the winter.

All Crinums are lovely, but perhaps the most magnificent one is

Crinum Kirkii, or Crinum Nobile, as it is variously termed by different florists. Under proper care the bulb attains an enormous size; and from it there shoots up a tall spike, crowned with an umbel of ten or fifteen large white fragrant flowers, with a reddish purple stripe on the outside of each petal. This beautiful variety comes from Zanzibar.

Crinum Fimbriatum, the Milk and Wine Lily of Nassau, is also a very good one, and deliciously fragrant. Its flowers are white with a claret-colored stripe through the centre of each petal; the foliage is erect and sword-shaped.

Crinum Americanum, a native of this country, of great merit, has pure white flowers.

As Crinums grow naturally in wet places, they require an abundance of water; and being evergreen, they may be kept growing all through the year. If they are in pots, it is best not to move them until they are bursting their bounds. Do not mix manure in your potting soil, but give manure water when the plants are growing freely. I plunge mine outside in the borders of beds or walks, and water them liberally every day, giving less and less as autumn approaches, to rest them for their winter's work.

Be sure to take Crinums in before there is any frost; and continue to keep them rather dry until your house is closed and fires are started. Then put them in a warm location where they will get all the sun possible, and begin to water them freely once more. At *no time* must they ever get dry enough to make the leaves flag. Do not plant them too deeply,

or you may lose your bloom: not more than *half* of the bulb should be covered, the long neck not to be taken into account.

Protect Crinums from the sun in summer.

IMANTOPHYLLUM

Imantophyllum Miniatum does well in the house in properly drained pots of loam, with leaf mould and charcoal added. A little bone dust mixed in, bene-



IMANTOPHYLLUM MINIATUM

fits them sometimes. I have found that these plants never flower until pot-bound, that is, until the pot becomes full of roots. When in active growth I give mine doses of weak manure water. In summer any amount of water may be given to both leaves and roots.

In winter they require much less. Allow them to rest awhile; and in January or February they will begin to grow, and soon throw up a tall scape having a large umbel of lovely shaded orange and yellow flowers. It is better to give them a good top dress-

ing in the spring, as they do not like having their roots disturbed.

I cannot conceive of any plant that is less trouble, or will give more satisfaction than *Imantophyllums*. They have long narrow leathery leaves, which I have never known to be attacked by any insect; and, if kept cool, they hold their bloom a long time. A temperature of fifty or sixty degrees Fahrenheit will suit them admirably.

They have fleshy roots, which become so thickly matted that it is difficult to separate them. They are increased by offsets, or by division of the roots. Never allow them to seed, as it weakens them to do so; and keep them in the same pot as long as possible. Plunge *Imantophyllums* in a partially shaded position outside in spring, and leave them there until just before frost.

LILIUM

We are all familiar with Lilies, and have long realized how beautiful they are either for outdoor cultivation, or to bring inside. Their stately habit, rich perfume, and lovely flowers, so noble in the purity of their appearance, have won for them many friends, and rendered their presence almost indispensable. They are generally hardy, and will thrive and multiply in well drained beds or favorable spots outside if given protection in winter. They can be grown in pots, and are greatly appreciated, especially about Easter, for which season they seem peculiarly appropriate.

Lilies like a moderately rich soil, with sand enough to admit of water passing through it readily. Keep them cool until they are about to bloom; then bring them into your sitting-room and install them in a

light sunny window. Syringe the leaves daily, to keep off *Aphis*; give sufficient water to the roots; and you should have an abundance of flowers. See that the bulbs are well covered. Liquid manure will benefit them during the flowering stage, but do not give it before that time.

When they have finished blooming, put them away to rest in the open air, if it is warm enough, and withhold water until they begin to grow again.

Lilium Auratum, Golden-rayed Lily of Japan, is one of the most beautiful varieties, and a good summer bloomer.

Lilium Candidum, a very handsome species, does best when well established, and not disturbed at the roots. It will prosper for years, increasing all the while in strength and vigor.

Lilium Harrisii, Bermuda Easter Lily, is more tender and cannot safely be left out-of-doors in winter in this latitude. But it will thrive in the house.

The following are all lovely and excellent varieties:

Lilium Bulbiferum

Lilium Longiflorum, White Trumpet Lily,

Lilium Speciosum

Lilium Speciosum Albiflorum

Lilium Roseum

Lilium Brownii

Lilium Canadense

Excepting *Harrisii*, these are all hardy, and do best outside.

While discussing Lilies we must not forget

Calla, an exceedingly useful and ornamental plant, always ready to respond to the various names by which it is called: the real ones, to which it is justly



LILUM HARRISII

entitled, are *Richardia Africana*, and Lily of the Nile. It is in fact, however, a White Arum, for it belongs to that family. It was named after L. C. Richard, an eminent French botanist. *Richardia Æthiopica*, or *Calla Æthiopica*, as it is sometimes written, is rather a misnomer, as the flowers are pure white.

Despite its names, Calla is an elegant and very



ARUM SANCTUM

popular plant. It is not difficult to raise, asking only a good rich soil, plenty of water, well drained pots, and that the Aphides be kept off. In summer put the pots on their sides outdoors, when the roots will dry off. Leave them in this position until September, allowing the plants no water; then repot in fresh soil, containing well rotted manure and sand, and

place considerable sand immediately about the bulbs. Now syringe them daily, and give the roots plenty of water; but do not let it stagnate. Tepid water is best. If kept rather warm, in a light position, but with not too much sun, they should bloom nobly during most of the winter.

There is also

Black Calla, *Arum Sanctum*, which is unique and worthy of place in a collection for its oddity. It requires the same treatment as other members of the family.

Then we have

Gem Calla, a very florescent miniature species, growing rapidly without attaining the stately proportions of its relatives, and almost always in bloom. Gem Callas may be plunged in the ground during summer, and taken up in the fall. When carried into your house, they will continue the greater part of the year to throw out their little flowerets, which are identical in shape and texture with those of the larger varieties.

All Lilies can be forced; the ones, however, generally used for this purpose are the Calla, *Lilium Longiflorum*, and *Harrisii*.

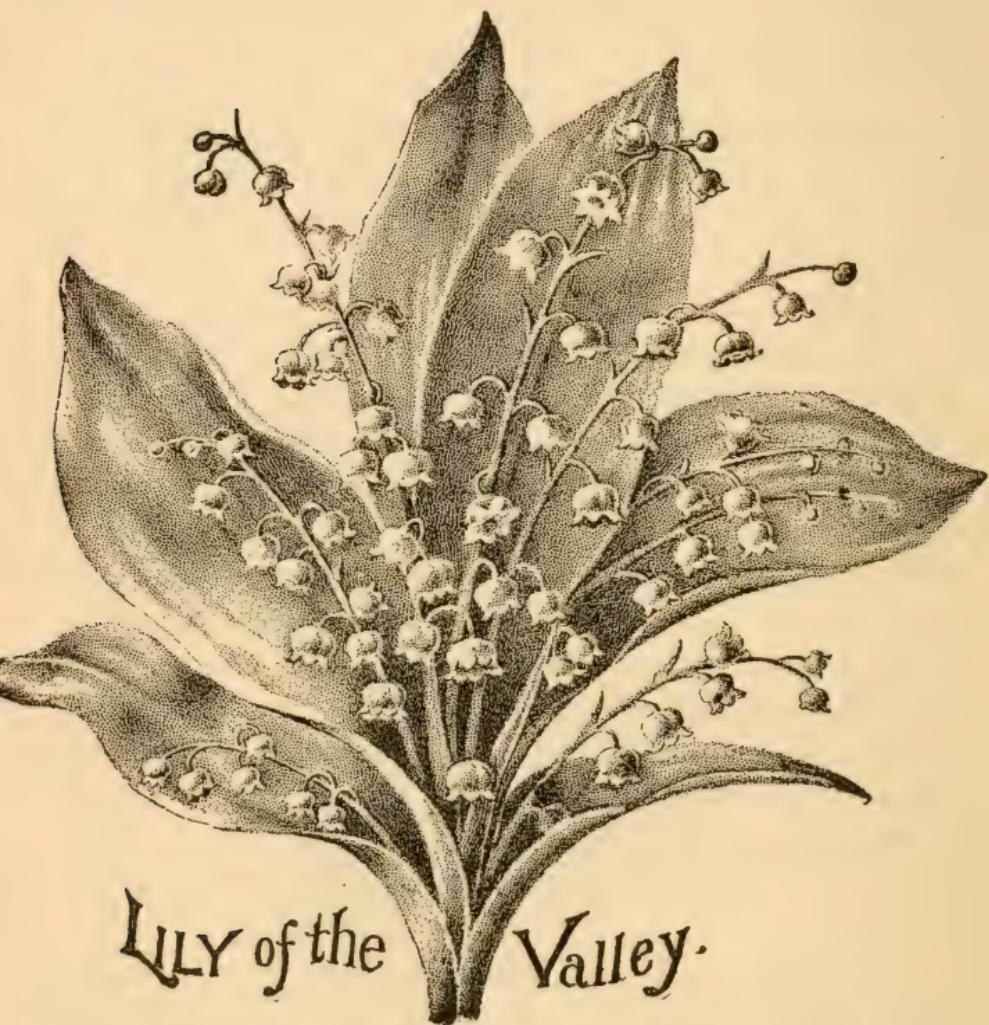
LILY OF THE VALLEY.

Convallaria Majalis. Order Liliaceæ. These hardy herbaceous perennials make lovely window boxes for early spring; indeed, with but little trouble you can have them at any time you wish.

Plant Lilies of the Valley thickly in shallow boxes during the fall, as suggested for Daisies and Pansies; cover them lightly with straw, leaves, or salt hay; and leave them outside until you want them in the

house. When you bring these plants in, put them away in some *perfectly* dark and very warm place, keeping them moist with warmed water.

If kept dark and warm enough, they presently will



begin to grow. As soon as they commence to shoot up leaves and show flower stalks, they must be moved to a window, where they will not get too much sun; and be well supplied with water.

The secret of success is to keep them very cold

until you are ready to use them; then the change to sudden heat forces them into activity.

The most satisfactory results I have ever seen from forcing *Convallarias*, were obtained by taking the bunches of pips without untying, just as they come from abroad—the imported ones being best for this purpose—laying them on the ground outside in the fall; and simply throwing a little salt hay over them as winter advances, to keep the crowns from freezing. They were taken in as needed; kept in a warm room for a while, to thaw out; then planted in pots or boxes of sand, or sphagnum moss. They were now given plenty of heat; and, when brought to the light, were never allowed to want for water; shaded from the sun; and supplied with sufficient air, but guarded from cold draughts.

In summer some gardeners keep the pips in cold storage, taking them out as required; they are thus enabled whenever they please to have the Lilies in bloom. Florists, by means of cold storage, are in these advanced days upsetting a great many of Dame Nature's calculations, forcing her from the beaten track, and breaking all her established rules. As to whether the result is an improvement upon her methods, we must leave the decision to those who demand a constant change from the old routine.

CHAPTER VII

P A L M S

<i>Arecas</i>	<i>Cycads</i>	<i>Oreodoxa</i>
<i>Caryota</i>	<i>Ficus</i>	<i>Pandanus</i>
<i>Chamærops</i>	<i>Kentias</i>	<i>Phœnix</i>
<i>Cocos</i>	<i>Latania</i>	<i>Seaforthia</i>

CULTURAL DIRECTIONS



THESE suggestions apply to nearly every plant that I have succeeded in keeping during the winter to brighten our home and gladden our hearts; but I gained the knowledge only through dire disaster, bitter experience, and many doleful failures. I have lost plant after plant through mistaken zeal, literally killing them with kindness, surfeiting them with care, until I discovered that a little judicious neglect did them good.

When all danger of frost is past and the weather is settled, after the blossom storm, I have all my plants carried out-of-doors; repotted if necessary; the foliage examined for insects, and well washed; and the pots sunken in the ground up to their rims, leaving just enough projecting to take hold of in turning them around. I place all Palms in a sheltered position, where they will get only the morning sun,

if possible, and will not be whipped or broken by strong winds.

Before sinking them, the ball of earth should be removed, and the roots examined in some such manner as the following:—Hold the pot in the left hand; place the right hand over the top of pot, the fingers passing around or through the stems; gently tap the edge of the pot on some harder substance; and the ball of earth should readily slip out. If it does not come easily, it will be because the earth is too dry. This being so, wet it thoroughly; wait until the extra water drains off; then try again.

If the earth is all, or nearly all consumed, and the pot full of roots, it should be at once changed, and replaced in a pot of the same size, unless this will not hold your plant with the fresh earth.

My own way is to shake off gently any dry hard soil; try the plant in pots until I find one into which it will slip easily; leaving about an inch of space all around between the plant and sides of the pot, to fill with new earth. The new pot should be well washed. Place a piece of broken crock over the hole in the bottom, to prevent the roots from going through; put in an inch or two of good fresh soil; and slip the plant in carefully without breaking the roots. Then fill up by throwing in a little dirt at a time, shaking it down through the plant, by lifting up the pot a little way, and dropping it gently down—not so hard as to break; continuing thus, and pressing well, and firmly with the fingers until it will hold no more; leaving about an inch from the edge of the rim, for holding water. Now soak the soil through with tepid water—not ice cold, as that chills the roots—and set your plant in the shade. It will generally

take care of itself for the rest of the season with but little attention.

I have mine well showered every day near sunset, and examine for Scale and Mealy Bug about once a week. These enemies, however, seldom attack a plant that is in vigorous growth. If they do, washing the under sides of leaves with a weak solution of whale oil soap, will drive them away. Mealy Bugs sometimes collect in joints or crevices, and have to be picked out with some blunt bit of wood. A hair-pin is good for the purpose.

All Palms do best when restricted as to pot room. Their roots should never be cut or broken. When it is necessary to repot, care should be exercised in taking off the old crock put in for drainage, as it may be grown over by the roots. If you cannot get it out without mutilation, leave it alone; put the ball of roots just as it is into a new pot; and fill in. But be sure the ball is in proper condition—that is, wet through—or it will not take hold of the fresh earth.

Do without potting as long as possible, by giving top dressings, and nourishing with manure water, when the plants are in a healthy state. But do not give manure water when they look sickly, as they cannot take care of it. That made from cow manure mixed with a little soot, is excellent, if you can procure it; but horse manure will answer, though never quite as well. It is inferior to the other for any plant.

Be very cautious in using soot; if too strong it may kill your plants. It is, however, when judiciously applied, one of the best fertilizers that I have ever used. Should you be so fortunate as to have wood fires, I would advise you to save every parti-

cle of the ashes; and when you have your chimneys cleaned, religiously preserve every ounce of the soot.

The ashes from oak wood are particularly strong in potash, and are therefore superior in supplying plant life with one of its chief requirements. But ashes must be handled with judgment. Two teaspoonfuls worked in, or sprinkled on top of the soil in a small-sized pot, will have a very tonic effect; and a little more should be allowed to larger pots.

All Palms should be left out-of-doors as long as possible. When the nights begin to grow cold and frost threatens, take them up; cleanse the outside of pots; give one final look for bugs; and a good washing of the leaves with hose or watering-pot. When they have finished dripping, carry them into the house, and fill your windows, not letting the leaves touch the glass, as, if the sun is strong, they will burn and become discolored. They are also apt to get frost-bitten on cold nights.

Once placed, and the house shut up for the winter, our real care begins—that is, if one has no moist air, only furnace heat and gas. These deadly foes must be contended with; and it is only by eternal vigilance that we can preserve Palms from their malign influence. Cleanliness and mild fresh air are the best antidotes. Open a window, or set the plants outdoors, when you can, to give the latter; and, as to the former, when you have no means of showering, a sponge dipped in tepid water, passed gently over the leaves on both sides, will take off the dust, and leave the pores, which are the openings to their lungs, unobstructed for breathing. This they are compelled to do freely, as well as you or I, in order to live.

Shield them all you can from gas, by lowering the light or turning it out when not absolutely needed where they are; and *be sure* that it *never* escapes; it poisons them as quickly as it would us. Every mild day give Palms air, but never make a draught by opening opposite windows or doors. One will do; and it will be better if that does not open directly upon the plants.

Do not give too much water, the mistake most of us make: they are now resting for a while and cannot take care of it. A use of good common sense will regulate the quantity. Examine the soil in the pot. If it appears to be very dry, soak it until wet *through*, but *do not* let the water stand in the saucers, as it will rot the roots.

Watch for bugs; and when you use whale oil soap one day, rinse it off the next with clear water. I always use water with the chill taken off. By following these directions I feel assured that you will succeed, as I have done, in keeping plants in this manner for many seasons.

ARECAS

These are the most decorative and beautiful Palms we have. Of hardy habit, with long gracefully curved fronds of glossy green, disposed about a trunk of quite a golden hue, they can hold their own with any rival for popular favor. They are elegant at all times, or in any position, being so beautiful in themselves that it would be almost impossible to place them at a disadvantage.

Areca Lutescens I have found one of the most useful, and with moderate care, one of the most hardy for house purposes. All that it asks in winter is to

be kept clean, and placed where it will not be chilled, yet will receive an abundance of light. Do not give too much water; when the growing time begins it may be more plentifully supplied. If general directions are followed, I cannot see a possibility of not succeeding with this plant in any dwelling.

If you are not the happy possessor of large specimens, an excellent way to make them appear at their



ARECA LUTESCENS

best is to place several small Arecas together in one pot, the tallest filling the centre, and the smaller ones grouped closely about it. Or you can arrange several small pots in a large vase, thus with a little ingenuity producing a fine effect. Arecas grow quite rapidly; if you care for them properly, you will be astonished to see how, in a season or two, they will increase in size, development and luxuriant beauty, until they become simply grand.

CARYOTA

A small genus of stove Palms, which will live outside in summer and in the house during winter. Though not so strong as some of the others I shall mention, or able to endure as many hardships, still these plants can be used with good effect.

They are frequently called Fish Tail Palms, and are known to many by that name only. If given conditions resembling those of their native habitat, they will grow to a colossal size. Of this I have evidence in a magnificent specimen before me: it is forcing the glass out of the top of an immense Palm house, which has already been raised three times for its accommodation, and that of an enormous *Latania Borbonica*.

Caryotas like a compost of good rich loam, leaf mould, and a small quantity of sand, with perfect drainage, and an ample supply of water when in vigorous growth. But in the house one must guard against watering them too much.

Caryota Urens is the variety most frequently seen in private collections. It comes to us from India, and is one of the largest-growing species.

Caryota Purpuracea is very similar to *Urens*, excepting that it is a more compact grower, and bears more leaves.

Caryota Sobolifera, a beautiful slender-stemmed variety from Malacca, is somewhat like *Urens* in the form of its leaves, but is more of a dwarf growth. It throws out many suckers, which will make new plants; and it is from these generally that the species are propagated.

CHAMÆROPS

A very small low-growing genus of the order Palmæ; quite hardy, and ornamental. They may be treated like the rest of the family, and used both outside and indoors; but it is essential to keep the leaves clean, and not give too much water during the winter months. In summer they should be well syringed every day, and be placed where strong winds cannot break, or whip the leaves.

In a rich loam, mixed with some leaf mould and sand, with good drainage, and a liberal supply of water, they do well and grow readily.

Chamærops Humilis, a native of Northern Africa, is a fine dwarf species, and the one most commonly seen. A well grown specimen of this variety is very effective for decoration.

Chamærops Macrocarpa, a more robust grower, with a hardy constitution, is a good plant for general purposes. This Palm is also a native of Northern Africa.

COCONUT

Cocos Weddeliana, from South America, is also a lovely, graceful Palm, standing the hardships of winter in an ordinary dwelling with remarkable endurance. It is the most beautiful among the many species of this genus, and is much used for table and other decoration. It is synonymous with *Leopoldinia Pulchra*, and *Glaziova Elegantissima*. Be sure that you do not kill *Weddeliana* with water. In summer, sunken out-of-doors, it will take a great deal.

Cocos Nucifera, the Cocoanut Palm, is the kind that supplies us with cocoanuts. While a quick-growing, elegant species, this variety is much too large for

house culture, as the leaves on full-grown specimens often attain a length of fifteen or more feet. It would be sad to become wedded to a plant, and then have to give it up or raise the roof. Nature in the plant world frequently astonishes us, and this might result if *Cocos Nucifera* were left to its own devices.



COCOS WEDDELIANA

Cocoses like a compost of about two parts rich loam, to one of peat, and one of sand. They should have a shaded position, as they cannot stand a hot sun. I have the hose turned on ours daily in summer; and during winter dip the tops in pails of water, to free them from dust, or whatever may have gotten upon them. I also, during the growing season, occasionally give manure water, which increases their vigor and strengthens them for winter in the house.

CYCADS

These are small Palmlike trees, which grow very slowly; but every year adds to their beauty and value, as the crown of leaves increases in size. Strictly speaking, they are not Palms; but they are usually so classed by others than scientific botanists. They are not difficult to manage, requiring ordinary soil in well drained pots, a little sun, and plenty of water in the summer when out-of-doors.

In winter, when in the house, I keep mine about a foot from a window, where they get the sun until about two o'clock, with just enough water to keep them from drying up. Our Cycads were wet possibly once a month last winter, and came out beautifully in the spring; but their success under such conditions depends entirely upon the heat of one's house.

Cycas Revoluta is the only one I have grown, or experimented with. It is the so-called Sago Palm, sometimes named Japanese Fern Palm. It is the best known and handsomest of the family, with its dark green glossy leaves, and is quite hardy.

There is a singular Cycad which comes from Mexico, *Dioon Edule*, probably the slowest of the order, as, after making a growth, it frequently rests two or three years before making another. These plants are very beautiful, and I have often been



CYCADS

tempted to try one, but they are too slow to be allowed house room.

FICUS

Ficus Elastica, the India Rubber Plant, we all know well, as it is extensively used both in the house and

conservatory. It stands confinement in rooms better than any other plant I have ever grown. There are a great many of the genus *Ficus*, or the Fig family; but they are usually stove or greenhouse trees, or shrubs; and are generally classed among Palms, though of another order. I recommend but this one variety.

They do well in

sandy loam with a little leaf soil added; and should have quite small pots in comparison with the size of the plants. Plenty of syringing when convenient, or sponging, will keep the leaves clean; and they will take almost any amount of water at the roots. In winter, however, I find that they are satisfied with less; if they get too much their leaves turn a bright yellow, and drop off one by one.



When you see them doing this, stop watering the roots for a while, but keep the leaves clean.

They take comparatively little rest, and if given a sunny window will continue growing most of the time. Out-of-doors in summer they take care of themselves to a certain extent.

Ficuses can be trained into fine shape by stopping, or pinching out the terminals, letting them grow only to the size and form you wish, and not into the crooked ungainly objects we sometimes see. If they bleed much when pinched, a raw potato, hollowed out to admit of slipping over the wound, will stop the flow of sap, and can remain until the cut heals. I give my plants manure water when growing, and have the leaves sponged every two or three weeks with lukewarm water in which there is a little common soap.

KENTIAS

How beautiful they are! So much so, that sometimes when one can afford only a single specimen, it is difficult to make a choice and decide between them. They are a genus of some six handsome stove Palms, natives of New Guinea and the Moluccas, and named after Lieutenant Colonel Kent. Kentias are related to Areas.

Kentia Belmoreana (Belmore's), sometimes called Curly Palm, will stand considerable neglect without resentment. It is decorative, of easy culture, and one of the hardiest for general purposes. It is synonymous with *Howea Belmoreana*.

Kentia Forsteriana (Forster's), or *Howea Forsteriana*, Flat, or Thatch Leaf Palm, is also a fine variety.

There are only these two of this species, both of them coming from Lord Howe's Island.

They require the same treatment as that described in the general directions; and be sure to keep their leaves clean. Give a sufficiency of pot room, with an ample supply of water in summer, at the roots and overhead, but not so much in winter. They do well



KENTIA FORSTERIANA

in good loam, peat and a little fine sand. If troubled by Red Spider, or Thrips, wash them well in quite soapy water.

LATANIA

The Bourbon Palm, a small genus coming from the Islands of the Mauritius; they are exceedingly well known, and you are more than likely to find them, either in a prosperous or half starved condition, wherever you go.

Latania Borbonica, from the Island of Bourbon, is a fine member of this family, and used to ill treatment; but, like the rest of them, it responds to kind attentions. It grows quite rapidly when well established, attaining great size, and makes a lovely house plant; with a little care, the smallest ones soon develop into



LATANIA

fine specimens. From this plant, which is synonymous with *Livistona Chinensis*, of Southern China, we obtain Palm leaf fans.

Mix some sand with the soil to facilitate drainage. Latanias like manure water occasionally; and be sure to keep them clean at all times. If this is not done, the Scale Bug will soon cover the leaves, and like a

vampire, suck their life-blood, the sap, until your plant dies.

Latania Aurea, a synonym of *Latania Verschaffeltii*, is a fine variety with stout stems and erect roundish deep green leaves, which have golden-colored ribs. This species is not so universally cultivated as *Borbonica*.

OREODOXA

From the Greek words *doxa oreos*, glory of a mountain, referring to the immense height of some of them. A small but elegant genus of South American Palms, which are very fine for rooms.

They enjoy most a mixture of loam with a little peat and sand; and when outside should be sheltered from the wind to some extent. There are only a few of this species. They are as pretty as *Phoenix*, and require the same culture.

Oreodoxa Regia is a lovely, graceful, slender-growing variety.

Oreodoxa Sancona is also a handsome species, and easily grown. Its leaves are a reddish-bronze when young. It is as adaptable as *Cocos* for room decoration.

Oreodoxa Oleracea, Cabbage Palm, is a native of the West Indies. It has gracefully arched leaves that grow from four to six feet long.

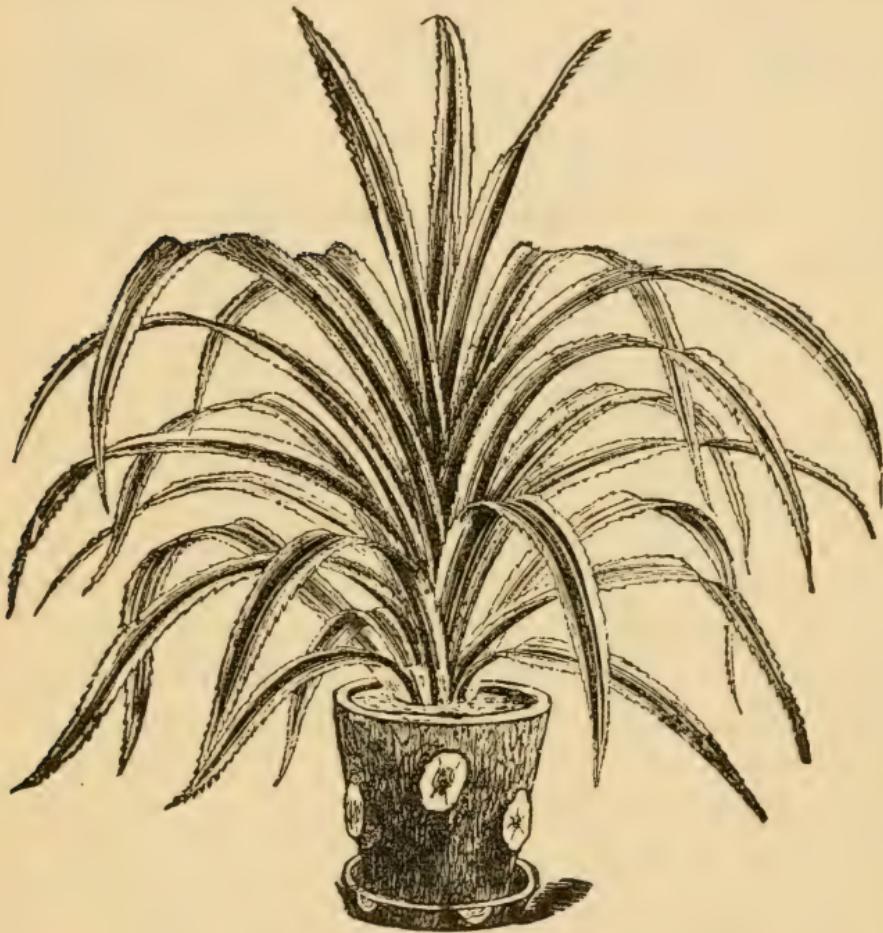
Oreodoxa Granatensis is a beautiful variety and excellent for decoration.

PANDANUS

Screw Pine. This is a genus of handsome, easily managed house plants. They belong to the order Pandaneæ, number about eighty species, and are

mostly natives of the Malayan Archipelago. While not Palms, these plants are often catalogued with them in collections.

They succeed best in sandy loam, with some leaf soil (such as we get from the woods) intermixed with



PANDANUS VEITCHII

sand and charcoal; and they should have plenty of water in summer. In winter, however, I keep them almost entirely dry and never allow one drop of water to lodge in the axils of the leaves; if this happens they rot in the bud, and some fine morning one discovers that the whole head of leaves has fallen off.

Should they begin to turn yellow, you may know

that they are getting too much water, if you have been giving it to them freely or often; or that they need some, if they have not been wet for a long time. My own Pandanuses went through last winter with scarcely any.

Pandanus Veitchii, one of the best, is beautifully marked, being dark green bordered with broad bands of pure white. This plant is largely used in a young state. It throws out numerous offsets, which should be detached, and rooted in small pots as soon as they are large enough to handle.

Pandanus Utilis is another excellent variety.

These two are the ones generally found in collections, though the family is such a large one.

They have a habit of pushing their roots upwards until they become very leggy. When they do this, and grow unsightly, it is best for an amateur to get some good florist to attend to them. There is a method of cutting them down. I know how to do it, but prefer not to explain, as it might not be fully understood, and cause you to lose your plants.

Pandanuses will grow to a great size, making fine specimens that command large prices.

PHOENIX

Date Palm. There are about a dozen species of this genus, handsome greenhouse Palms with us, coming as they do from tropical or subtropical countries. In the South of France numbers of them are grown in the open air to supply the Paris market, which makes a large demand for decorative purposes. These plants are very beautiful, and do well in the house with the same treatment as that given other Palms.

Phoenix Dactylifera, the common date-bearing Palm that grows to a great height in its native lands, is a handsome upright species.

Phoenix Canariensis, from the Canary Islands, is a rapid grower, and in every way a desirable plant.

Phoenix Rupicola is, in my opinion, the handsomest of them all.



PHœNIX RUPICOLA

Phoenix Sylvestris, the East Indian Wine Palm, or Wild Date, is one of the hardiest.

Phoenix Reclinata, from South America, is a large-growing species, with its lovely green leaves beautifully recurved. I know of nothing more ornamental than a well grown specimen. To hold the long roots, have deep pots; let them be well drained, and filled with rich soil; give the plants partial shade, and plenty of water when growing. Keep the leaves clean. With these simple requirements satisfied they should make a fine showing.

SEAFORTHIA

Seaforthia Elegans. The Australian Feather Palm, that comes to us from Queensland and New South Wales, is a tall-growing variety, requiring only that its leaves be kept clean; and that it have leaf mould, good loam and sand, thorough drainage, and plenty of water; but be careful not to give too much water in winter.

It is a very graceful as well as stately plant, with a tall trunk, and thrives remarkably in dwellings.

Seaforthia is synonymous with *Ptychosperma*.

The foregoing group includes all the Palms that I consider useful, decorative and manageable in the house, and the only ones with which I have been successful. There are numerous other varieties, but they will prosper only in a greenhouse. Those which I have mentioned, however, you will find sufficient, and they will amply repay you for the care bestowed upon them.

All the Palms in this list require very much the same treatment—to be kept clean, free from bugs, in as small pots as possible, and not to be given too much water during the winter months.

About the last of February they will begin to grow. Then a mild solution of manure water, given once a week, will help them. It should be about the color of weak coffee; and can be made by tying the manure in a coarse bag or cloth, pouring water over, and letting it stand for some hours, say over night. Then dilute, if too strong, and use. I have it made very strong to save time, and thinned as needed. Do not let the earth be dry when you apply manure water.

CHAPTER VIII

S H R U B S

<i>Abutilon</i>	<i>Azaleas</i>	<i>Hoya</i>
<i>Acalypha</i>	<i>Daphne</i>	<i>Hydrangeas</i>
<i>Aloysia</i>	<i>Gardenia</i>	<i>Jasminum</i>
<i>Aralia</i>	<i>Grevillea</i>	<i>Olea</i>
<i>Ardisia</i>	<i>Hibiscus</i>	<i>Oleander</i>
	<i>Oranges</i>	<i>Roses</i>

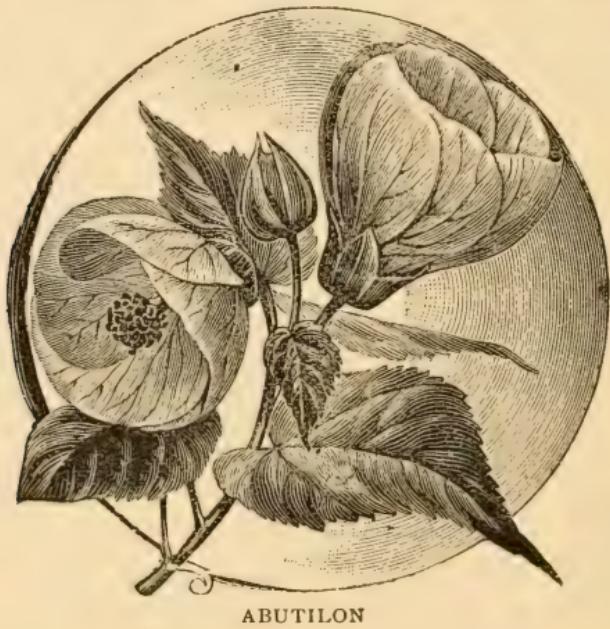
ABUTILON

 HOWY, free-growing shrubs, very pretty both outside and in the house. These plants are easily grown, and will repay your care. They like a soil of equal parts of good loam, peat and leaf mould, with some sand. Abutilons must have thorough drainage, as they need quantities of water when blooming; at the same time, also, give them weak manure water.

Planted out-of-doors in spring, if the buds are pinched off as soon as they show, Abutilons can be kept from blooming until late fall. Their bloom will continue for some time after the plants are carried into the house, if the change from outside air to a close room is not made too suddenly. In the latter case, they will drop the buds and possibly their

leaves also. It is well to bring them in before you have to start the furnace, as then they gradually will get used to the change from the free air outside.

After their flowering, lessen the water, and let them rest, giving just enough to keep them from drying up; but as soon as they begin work again, keep them well supplied. Young plants that are specially prepared for winter bloom, do better than old ones. I refer to slips that have been taken from



the parent plant and rooted during summer. They strike readily from cuttings of the young wood at almost any season; the best time, however, is the spring, or September. These young plants should bloom surely in winter.

Your old plants may be put away in some cool place, and kept almost dry; they will come out again in the spring, stronger and better than ever. Do not, because the leaves fall, throw your plants away, and think they are gone beyond redemption; possibly

they are only tired. If you let them rest, and stop watering for a while, they may soon revive and flourish.

Abutilons may be trained easily. I prefer the tree shape, letting the main stem run up as tall as one desires, then nipping off the terminal bud. This will make the plant seek an outlet for its vigor, in some other direction; the result will be a side shoot. You may keep cutting or pinching until you get a neat, full, round head. Then let the flower buds form; and be sure you do not pinch them off, or you will get no flowers.

I consider it best for this purpose to take new plants each summer: so that if anything happens to the old stock, one is still provided for.

Excepting the *Aphis*, or Green Fly, bugs do not trouble Abutilons very much. Water, or soap suds, will keep them down. If you make a warm lather in a tub (the plants will stand it quite hot), wind a cloth over the top of pot to keep the dirt from washing or falling out, invert the plant and dip the whole of it in, moving gently about; or throw the water on with your hands; you can wash the insects off. Then rinse the plant in clear water, seeing that no bugs are left clinging to the dirt. You will thus be rid of them, for a while at least.

There are many varieties of Abutilons; I think them all pretty: they are so graceful with their crimson, pink, white and golden bells, drooping down and peeping out everywhere amidst the clean-cut foliage.

Boule de Neige, a very good tall-growing variety, has pure white flowers.

Golden Bells is a fine yellow, and a prolific bloomer.

Santana is also very attractive with its deep red flowers.

There are many others, all more or less good, including some dwarf specimens, quite distinct from those I have named. They grow about a foot and a half in height.

ACALYPHA

Acalyphas are good for effect, being highly colored when well grown. Though rather coarse, their bril-



ACALYPHA

liant leaves make a fine contrast amidst the green of other plants. They are shrubs, and easily cared for.

Place the pots where they will have the full benefit of sunlight in summer, and give plenty of water. In winter, keep them near the glass of a south window to get the sun; water carefully, or they will drop their leaves. If they do this, put them away where

they will not freeze; they will come out again in the spring.

These plants grow in almost any ordinary garden soil, but enjoy best a rich loam, and weekly supplies of manure water during the summer.

Some of the hybridized varieties are beautifully colored, one of the handsomest and most satisfactory being

Acalypha Macrophylla.

The following also are both desirable:

Acalypha Musaica, from Polynesia, a bronzy-green, variegated with red and orange;

Acalypha Wilkesiana, or Tricolor.

ALOYSIA

Fragrant, or Lemon Verbena; of the order Verbenaceæ. Named after Maria Louisa, mother of Ferdinand VII, King of Spain. They are deciduous greenhouse shrubs, but by good management may be kept growing most of the time. Their odor is very grateful to many people, and delightfully refreshing. They should be planted out in May in a sunny open situation. When liberally supplied with water they will make good growth.

Lift early in September; cut back both roots and tops; repot, in good sandy soil; water well, and set in the shade until they recover and show signs of new growth.

Take them in before frost; keep them as cool as possible during the winter, and quite dry for a while, to rest them. When they begin active growth give more water. By pruning the roots they may be kept in smaller pots: they will soon throw out fine working roots from the cut portions.

Aloysia Citriodora, synonymous with *Lippia Citriodora*, and *Verbena Triphylla*, has slender branches that may be trimmed, or trained in a variety of ways. I keep mine cut back until they form a good round head, which makes them stocky, and prevents a straggling appearance. They break in a new place every time you pinch or cut off the terminal shoot.

Their delicate, pale green, lemon-scented leaves, blend harmoniously with almost any flower, and serve to bring out fresh beauty.

Should they lose their leaves after coming inside, as they will if kept too hot, put them away where they will not freeze, with scarcely any water; give just a little, occasionally, to keep them from drying up. After resting thus awhile they will once more commence to throw out leaves, and soon will be clothed in beautiful raiment to gladden your senses. So they may be kept on from year to year, growing stronger, stouter, more beautiful, and, if you have trained them well, resembling miniature trees.

ARALIA

A term whose meaning is unknown. The genus embraces many varieties of greenhouse, hardy, herbaceous and shrubby plants.

Aralias are effective, and give but little trouble. With a rich, porous, sandy loam, sunken in some shaded, sheltered position, and copiously supplied with water both overhead and at the roots, they will make a fine growth before it is time to take them in, should you wish them for the house.

In an ordinary dwelling, in winter, they will not require much water, if you give them a moderately cool situation.

Their leaves must be kept clean, or the Scale Bug will take possession.

After resting awhile, they probably, about the last of January, will show signs of vigorous growth; then they will need more water, and must not become dry.

There are so many varieties that it is hard to individualize, but, personally, I prefer

Sieboldi, which, with its glossy leaves of rich dark green, has become quite a pet of mine.

ARDISIA

This is a large genus of greenhouse, evergreen trees and shrubs, with whose history and peculiarities we need not encumber our minds, as I propose to recommend only one member of the family, the one with which I am most familiar—my favorite.

Ardisia Crenulata will make a lovely contrast in any collection of foliage plants, lighting up beautifully with its bright red berries the various greens of Palms, Cycads and Ferns.

Ardisias need well drained pots of peat, loam, some sand and about one-fourth of well rotted manure; a light situation; and judicious watering. When they commence to fruit, manure water given once or twice a week, until the berries are colored, will help them much; and they must always be kept very cool. A temperature of about forty-five degrees, but not lower, will suit them admirably in winter; with only this amount of heat, they will be less liable to the attacks of a large brown Scale, and other pests that are partial to them.

If grown in a cool atmosphere the berries of one

crop are very likely to remain until another crop of fresh ones is formed.

Ardisias often grow unshapely after reaching a height of about two feet, by getting naked at the bottom. This you can remedy, by cutting them back to within two or three inches of the pots in early spring, letting them become dry at the roots before doing so. After the cuts have healed over, begin giving water gradually, and they will soon break into fresh growth, when you can shape them to suit your fancy, by rubbing off badly placed shoots.

I think you will find them more effective than the well known Solanum, commonly called Jerusalem Cherry.

AZALEAS

A decidedly popular genus of plants, remarkably beautiful, consisting of both hardy and greenhouse varieties. Comparatively few flower lovers, who are not blessed with greenhouses, attempt the culture of Azaleas, which is due to an erroneous impression that they cannot be managed without glass.

This is a mistake. They are as easy to handle as Roses or Chrysanthemums, if not easier. If you do not understand, or take the trouble to learn the habits and requirements of your plants, you are apt to lose them; and, as fine specimens are rather expensive, you would naturally hesitate before investing in many, or, perhaps, even in one. But if, like most of us, you admire, and would care to have them, there is no earthly reason why you should not, and succeed as well as it is possible for any one to do.

If you have room, six or eight plants will afford you much delight, and a succession of bloom for two or three months.

Ghent Azaleas are the hardy species, and **Azalea Indica**, the Indian or Chinese Azalea, the greenhouse variety.

One of the first essentials is good soil, made up of one-half peat, and the other half equal quantities of leaf mould, fibrous loam and sand, with *thorough* drainage.



AZALEA INDICA

They insist upon an abundance of water during the growing and blooming seasons, and must never be allowed to become dry; yet great care is necessary, as an excess of water is as bad as not enough.

Too much water causes the fine roots, with which these plants are provided, to decay. This you can prevent by being certain that your drainage is perfect, and that no water can possibly stand in the pots.

The roots of Azaleas are so small and threadlike, and grow in such thick masses about the stalks, that water cannot always penetrate them. This you must watch out for. Have the soil a little lower around the stalks, that the water may run to the centre and soak through there; but be sure it *does run through*, and not stand.

If you have no other means of showering them which is necessary to keep off the Thrips and Red Spider, a good plan is to set the pot in a large tub, or bucket, containing enough warm water to barely cover the pot. While the roots are getting well saturated you can sprinkle, or shower the tops, to wash off these pests, and cleanse your foliage at the same time. If you place the bucket in your bath-tub you can shower all you wish to; no dirt will get on the floor or down the pipes, as the bucket will catch and hold any soil that may wash out of the pots; the drip from the leaves may fall into the tub without harm.

There are various ways of managing, to give them a good bath and keep them clean. But always place the plant in a bucket. If you have no bath-tub, wash-tubs in the laundry will do. Should you have neither of these, take a common wash-tub, and make a warm lather in it with common soap; or, if the bugs are very bad, use whale oil soap.

Tie a cloth over the top of your pot to keep the earth from falling out, and, inverting the plant, dip it in and wash well.

This is to be done only *before* they begin to bloom, as during the blooming period it would spoil the flowers. If, however, you have kept them clean, and growing well up to that time, the bugs will not

do them any harm, unless the plants are in too warm an atmosphere.

Azaleas can hardly get too much light or air. They must be kept very cool to thrive; and you should change your pots to ones of larger size as they outgrow the old ones. With a little care you can grow immense and beautiful plants. The best time to repot is just after they have finished blooming, and before they have commenced to make new growth.

For the attention they receive now you will be repaid a hundred-fold in the coming season, if you will endeavor to follow closely the advice or instructions, as you please, which I am going to give.

Turn your plants out of the pots; break off all the old crock, or whatever you have used for drainage, and all the old dirt that will come by jarring, shaking or otherwise. Be careful not to break the roots, from the bottom of the ball of roots and soil.

This should considerably diminish the size, but should leave you still a rather compact hard mass.

Have well washed pots, *exactly one size larger* than those from which you have just taken the plant.

Let your soil be ready close at hand. Put in broken crock as before for drainage; then take each plant, and with a small stick, blunt and round (or the tine of a hay fork, if you have one), an old carving fork, or anything of that kind, make holes all about and through your mass of roots, by gently inserting the instrument and pressing the roots apart, so that water may get in, and the roots may get out, to come in contact with the fresh earth.

Now place your plant in the centre of the pot, and fill in. Each handful, or trowelful you throw in,

should be packed down firmly with the handle of a trowel (a good thing to use), or with the fingers. The whole future existence of your plant depends, in a great measure, upon these holes, and this firm packing.

Continue thus until the pot is filled up to within half an inch of the rim, being sure to leave the roots near the stem *above the surface of the ground*. If they are covered, and water should sink in and settle around them, they would rot, and so destroy the plant before you discovered what was wrong.

The reason for being so particular about the firmness and solidity of the soil, is, that your mass of roots is much harder and more solid than this light new earth; consequently, if you throw the latter loosely into your pots, when you come to water them, the water will run quickly through this porous, soft soil, gliding over the hard roots as it would over a duck's back, without having time to penetrate. The result will be that the plant will die from lack of moisture. If, however, you have done your work properly, the water will go down slowly, and sinking through all the holes you have made, will penetrate to the very centre; the whole mass of earth will thus become equally saturated, and softened; so that the roots will spread out, and take hold of the new soil.

If you have potted *directly after blooming ceased*, but not otherwise, take a pair of clipping shears, and trim your plant all over to a nice round shape. The flowers are borne on the new wood. They at once will begin to make this new wood, on which buds will form. Accordingly, if you trim later than the time I speak of, you will cut off all your *buds*, and the *flowers* you are looking forward to for next year.

After you finish the necessary trimming, water

well, both overhead and at the roots. Set the plants in some close place where the sun or wind will not strike them, and dry them out before they are well established. Syringe freely for a few days, until they look as if they were growing again. Then, if the season is advanced enough to allay fears of frost,



AZALEA

they may be plunged in some garden border. Here let them remain without further trouble, except a daily soaking or showering of water, until the very last possible moment in autumn, which means until you are sure there will be a frost. This must not catch them, as it will blast the buds, and all your fond hopes.

You must remember to turn the pots occasionally, or your plants will grow all crooked.

If you will mulch the pots with old manure, as I have suggested for other plants, you will be surprised at the effect.

There are two objections to this treatment: one is that the manure, if too fresh and strong, will burn your plants; the other that the manure is apt to fill the pots with angle worms. Some say that it is sure to do so; but I am simply giving my own experience, and stating facts that I have personally gathered from experiment.

In refutation of these other people I would say that the worms will get in anyway, being like the poor, always with us; and, as the manure, if in proper condition, does so much to benefit the plants, I put it on mine, and take my chances of ousting the worms.

There are various ways of getting rid of these pests. For instance, quite hot water, poured on the earth, will not hurt the plants, but will cause the worms to crawl rapidly to the surface, where they can be picked off and destroyed. But even if they remain, when you take the pots out of ground for the winter, you will have to keep your plant in some room, or cellar, whose temperature will be just above freezing. Here, while the Azaleas will do finely, it very probably will be too much for the worms, which require warmer quarters.

I would particularly warn you—no matter what you see or hear recommended for their destruction—never use lime water. It is excellent with some other flowers, but must not be used on Azaleas: they will not do well in soil that has any lime at all in it. When the plants are blooming, do not allow them ever to stand in the sun, as it withers the flowers.

At this time give them weak manure water about once in seven days.

When you bring your plants into the house, do not neglect watering; and, on mild days, give them all the outdoor air possible.

They stand considerable cold; indeed the cooler they are kept without being frosted or frozen, the longer you can postpone their blooming, and the better the flowers will be when you do bring them into the heat. Even then you should try not to have your rooms too hot, the bloom will thus hold for a much greater time.

We had large specimens, a perfect mass of lovely flowers, in some of our living-rooms this season. They scented the house with their fragrance, and delighted the eye for an unheard of length of time. Yet a friend, to whom some of the same plants, prepared in the same manner, were sent, complained that they began to drop their flowers within twenty-four hours after entering the house.

I investigated, and soon found out the secret.

In the first place, there was a slight leakage of gas in the room where they were; then, they were never given any fresh air, which might have counteracted this deadly miasma; and the little dab of moisture, that my friend called watering, was worse than none. These combined causes were too much for the lovely Azaleas; they succumbed in about three days, coming back to us, looking most forlorn, with all their beauty departed.

DAPHNE

The Greek name of the Bay Tree, *Laurus Nobilis*. It is a genus of very ornamental evergreen or de-

ciduous shrubs. Some of them make excellent house plants, as they are not difficult to care for; moreover, they do not grow very tall, which is a desideratum with those of us who are limited as to space.

Daphne Odora is an exceedingly pretty evergreen, greenhouse shrub, which fact need not alarm one, as the plant may be readily accustomed to a change of residence, and will do as well in the house as an Orange, Lemon, or other hard-wooded shrub. It is an old plant; yet for some unaccountable reason is but seldom seen. I am, however, assured that were it generally known it would be greatly appreciated. It has thick, dark green leaves, and throws out clusters of the most delightfully fragrant flowers, which alone should make it a favorite.

These plants require to be kept very cool; a temperature as low as fifty-five degrees will start them growing, and they should not be any warmer, unless you wish them to bloom. Every year after flowering they should be potted, with equal proportions of good loam and peat, and perfect drainage. Be very careful about watering them in winter, as they will need very little water when not blooming.

They grow so slowly that five or six-inch pots will be large enough for good-sized specimens.

If you do not care for them in the house, they can be put away in a cellar; and set out in the spring. They must be kept clean like other shrubs.

GARDENIA

Cape Jasmine. A genus of considerable size containing a number of greenhouse evergreen trees or shrubs, all more or less handsome. Named after

Doctor Alexander Garden, of Charleston, South Carolina. Most of us are familiar with

Gardenia Florida, and know what a beautiful specimen of the family it is. These plants are not hard to raise if you can give them plenty of heat; keep them free from bugs; and, when growing, allow them quantities of water. They should also be syringed daily, morning and night, if possible. They like a rough compost of about two-thirds peat, one of loam, and some charcoal.

Gardenias are readily propagated by taking healthy slips five or six inches long, stripping off all the lower leaves, and planting them in a box of very sandy soil. Strong well ripened cuttings, with heel if possible, should be selected, and covered up to the second or third joint. Keep them moist all the while; and place over the box a pane of glass. August is a good time to do this.

It is well to have new plants coming on; they do better than very old ones, and can be grown for succession, thus prolonging the blooming period.

In Texas and Mexico, for some unaccountable reason that I have never fathomed, they mix coffee grounds with the soil in which they plant Cape Jasmines; and water them with coffee water made from the grounds left over. They also put coffee grounds as a mulch and fertilizer on their Oleanders. I have never discovered what benefit there was in this treatment, but only know that their plants seem to thrive under it.

If the leaves of Gardenias turn yellow, or begin to fall, mix powdered sulphur in the soil. About half an ounce to a five or six-inch pot will be sufficient. It has a wonderful effect upon them.

Watch eternally for insects.

GREVILLEA

Exceedingly graceful plants, most of them handsome greenhouse trees or shrubs, that belong to a family of which considerably over a hundred members have been described. Out of this large connection I shall recommend only one, which from experiment I know will do well. With the rest of the family, though they may be equally meritorious, I personally have had no practical experience, and therefore cannot say whether they would thrive in the ordinary living-room or not.

Grevillea Robusta, a delicately lovely variety of easy culture, is my favorite. If these plants are potted in rich soil, with some sharp sand mixed in; plunged in a shaded position; given liquid manure occasionally; and watered freely overhead and at the roots every day; they will make a fine growth before it is time to take them in.

Keep them moderately cool in the house, as they dry like Ferns in too hot an atmosphere. Give them fresh air when possible; and a moderate amount of water, dipping the top whenever convenient into a pail or tub of water to refresh and cleanse the foliage, and they will keep beautifully all through the winter. By lessening the supply of water, you allow them to get time to rest before their spring work commences. If you succeed with one I do not think you will regret the effort.

HIBISCUS

The ancient Greek name for Marsh Mallow. It includes in its number about one hundred and fifty species, comprising stove, greenhouse, and hardy shrubs

and herbs coming mostly from tropical places. They are variable in color, with dark, rich glossy leaves; and usually have very large, brilliant and showy flowers.

Hibiscuses like a compost of peat, and rich, fibry loam, not too fine, in equal parts; with the addition of some sand or charcoal to make it porous. They must have perfect drainage, for, if water stagnates at the roots, they will drop their leaves. They enjoy the sun; yet its afternoon beams are too strong for them. Water them regularly, and give plenty on the leaves. Weak manure water at the roots is good when they are blooming.

These plants do well in the ground outside in summer. If they are kept in pots, they can be transferred to your warmest spot in the house, and will continue to flourish for some time. If they drop their leaves, set them away to rest. In winter keep the soil *moist*, not wet; and watch out for insects.

They can be stored where they will not freeze or entirely dry up, and, with a little cutting back in the spring, they will come out as good as ever, if not better, being stronger at the roots. Some species are perfectly hardy, and can be left out altogether, growing larger with each succeeding year; but they are not so fine, in my opinion, as the tender varieties, being of a coarser type.



HIBISCUS

The following are all good, and make very attractive plants:

Hibiscus Schizopetalus

Hibiscus Coccineus

Hibiscus Splendens

Hibiscus Rosa Sinensis

Hibiscus Rosa Sinensis Cooperi

HOYA

Wax Plant. A large family comprising about fifty species of scandent or decumbent shrubs. They are all ornamental stove plants, being natives of tropical and subtropical countries, such as Australia and the Malayan Archipelago. The leaves are thick and fleshy, the flowers waxlike.

Hoya Carnosa, the one most commonly known, bears lovely pinkish-white flowers in large pendulous umbels on short stems. I am quite familiar with this plant, having grown it very successfully. It likes a rough peaty soil with perfect drainage, fresh air, and not a great deal of shade. *Hoya Carnosa* should be rested in winter by giving it less water, and keeping it moderately cool. It is a climber, and can be trained over a trellis, or does well in a basket.

Do not cut off the flower stalks, as the next year's flowers are produced on them and the new wood.

Among those described there must be others equally satisfactory of which I have only knowledge gathered from others, such as:

Hoya Bella, from India, a shrubby dwarf species, which grows about a foot and a half high, and has white flowers with crimson centres;

Hoya Paxtoni, that greatly resembles it in growth and appearance, except that it has lighter-colored leaves and pure white flowers with pink centres.

The family, however, is too numerous for me to attempt their description in these pages.

HYDRANGEAS

A much larger genus than is generally supposed, though a very small one when compared with other families that number hundreds. There are over thirty of the species, greenhouse and hardy, deciduous and evergreen, shrubs and trees, coming from Asia, Java, the Himalayan Mountains and other places. They are easily cultivated and very ornamental for window decoration, as we all know.

Hydrangeas do well outside in summer either potted or in the ground; and some of them are sufficiently hardy to be left out all through the year. The varieties having abortive or sterile flowers, are the most extensively grown, being the most ornamental on account of their enlarged calices. They require very rich soil, and an abundance of water; in fact, it would be difficult to give them too much water while growing, and flowering, as they are naturally an aquatic genus; but, like all other plants, they need good drainage. And the roots must not be crowded.

One can raise new plants every year, they are so readily propagated; but I prefer the older specimens, as they give larger heads of bloom, and increase in beauty all the while.

There are many ways of caring for Hydrangeas. I shall endeavor to explain some of them as lucidly

as possible, leaving you to adopt the one which appears most feasible.

If your plant or plants have been outside all summer, either in pots or in the ground, where they did not get too much sun, and had all the water they wanted; and you wish them to continue growing in your windows during the winter; pot them in September, if they are in the ground; water them well, and set them in the shade to recover. If they are in pots already, simply bring them into the house before frost touches them; keep them moderately warm; supply them with water; and they will go on growing.

Should they begin to drop their leaves, set them away in the coldest place you have that is frost-proof, and let them rest for a while—perhaps six weeks, or two months—then bring them into the heat; give them a moderate supply of water; and you will soon see the leaf buds swelling. In a short time they should be in full foliage, and before long should throw up flower buds: they are no great idlers, and are quite willing to work during the greater part of the year.

If you desire them only in summer, and do not wish to bother with them in the house, you can keep them from season to season with very little trouble. Put them in a cellar, as I said before, in the fall; and let them remain there until they show such unmistakable signs of growth that they must be brought to the light. This must then be done, or they will grow weak and spindling.

If there is no place in the house, but plenty of ground outside, have a pit dug, where there is good drainage, and no possible danger of water settling or standing. Take your plants out of whatever they

HYDRANGEA OTAKSA



are in; lay them down slantwise in this trench or pit which you have ready, with the heads up; and cover them with dirt, taking care not to break or destroy the tops in any way. After putting a couple of feet of soil on, leaving just the tips of the branches out for air, cover the whole thing over with straw, salt hay, leaves, or something of that kind, to keep the frost out. But do not use manure, as that will make them too warm, and they will begin to grow.

If you have ever seen a farmer trench up celery for the winter, you will know exactly what I mean, for it is done just as you must do with your Hydrangeas. You must understand that if any water settles amongst them, they will be destroyed; but if rightly prepared they will come out in the spring in fine condition.

As soon as the weather admits of uncovering, take them out; cut the old roots back with a sharp knife or shears, straight across the bottom of the ball, that it may go into a smaller pot or tub. Moreover, this cutting makes them throw out fresh young roots, which have more vigor and strength to sustain the tops. After cutting, if your plants occupy more space than you like, they may be again reduced into still smaller ones, by simply dividing the roots.

When you have them small enough to suit you, pot them in fresh rich soil; water them moderately; and, if there is no danger of frost, you may leave them outside. The embryo buds, which formed the previous summer, and have been lying dormant all through the winter, will soon begin to swell; and in a very little while will reclothe your plants in all their pristine beauty.

Should you want any of them in your house before

spring, you can take one or more as you need them, treat exactly as I have described, and bring them into the heat where they will soon develop; only be careful to cover up well those you leave in the trench.

If they have rested—say during November, December and January—they will be quite willing and ready to begin business again in February.

From the various methods here suggested, I think that, if you are a lover of flowers, you should be able to succeed with and preserve these beautiful plants; and, if multiplying faster than you desire they become too numerous, you can always present them to a neighbor with a little lecture upon how to take care of them.

Hydrangea Hortensis, the common garden species, and most of its varieties, are apt to have sterile flowers; and, therefore, on account of their enlarged bloom, they are in greatest demand. They are nearly all hardy, and can be planted outside and kept there throughout the year, if given a little protection in winter.

A good way is to take both heads out of a barrel, and place it firmly over your plant just before hard, or black frost, as the farmers call it. Fill up the barrel with leaves, salt hay, or anything of the kind, to keep out frost; but do not make the plants too warm. Bank earth outside against the bottom of the barrel to keep it from blowing over; and they will be all right. This is for the hardy ones. The other directions were for tender species, like *Otaksa*.

Hydrangea Hortensis Japonica is the blue variety, which, like many others, is intensified in color by the character of the soil in which it is grown. In some

soils it is very pale, going back to almost pure white, while again in others it is a deep blue. This blue can be made deeper by the use of various chemicals, dissolved in the water you use on the roots. A small quantity of iron mixed in the soil is said to have the desired effect. For this I am not an authority, never having tried it myself, but no doubt it is a fact.

Hydrangea Hortensis Otaksa is the lovely pink variety which is so much used. Some say that these plants are hardy, while others declare that they are tender. In any event, I think it best to be on the safe side, and therefore never trust mine out unless I am sure there will be no frost or danger of their freezing.

Thomas Hogg is a beautiful pure white species that I have found perfectly hardy, having a large bush which has been out in the ground for several years.

Hydrangea Paniculata Grandiflora is a thoroughly hardy beautiful shrub, which can be grown only out-of-doors. It becomes a very large bush, five or six feet high, covered from August until frost with dense panicles of pure white flowers that change to a reddish pink as the season advances. If the flowers are cut just before they turn, they will keep in the house in vases, and look quite fresh nearly all winter.

Hydrangea Quercifolia (Oak-leaved) is a very pretty variety, with white flowers also, but tender, being only half hardy.

There are other kinds, with the treatment of which I am not familiar, such as:

Hydrangea Scandens, a climbing species,

Hydrangea Petiolaris

All of the genus want quantities of water, and very rich soil; they are greatly benefited by manure water when blooming. Also top-dress or fork in old manure in your soil.

JASMINUM

On account of their lovely flowers, and the delicious perfume given out by most of them, Jasminums are popular plants and well known. They grow luxuriantly and are hardy all over the South; but in the North I know of only one variety, *Nudiflorum*, that will stand the winter out-of-doors; and this I have always heavily mulched with leaves and manure to prevent freezing. Jasminums are a large genus, and many of them make desirable house plants, staying out all summer, and being brought in before frost. Most of them are twiners, and can be trained into any desired shape; others are shrubby.

Jasminum Gracillimum, a small-growing stove plant with large white flowers, is a good winter-flowering species, thriving in pot or hanging basket in a warm room.

Jasminum Nudiflorum is a hardy, rapid climber, with yellow flowers; it, also, does well in the house.

Jasminum Revolutum, a greenhouse variety, bright yellow and very fragrant, is a hardy evergreen climbing shrub.

Jasminum Floridum, from Japan and China, is a hardy ornamental shrub with yellow flowers.

Jasminum Fruticans is said to be a hardy evergreen shrub. I have never tried it.

Jasminum Grandiflorum, of which I am especially fond, is a greenhouse bush with white flowers. Its bloom is larger than that of the rest of the species.

They will all do well in a good compost, and with not too much water in winter; but you must keep them clean. Sprinkling or dipping does them good.

OLEA

Olea Fragrans is a handsome shrub, filling the house with its fragrance when in bloom. It is easy to cultivate, and you will prize it more and more each year. It grows slowly like most hard-wooded plants. The foliage is thick and glossy.

Plunge *Olea Fragrans* where it will get the full benefit of the summer sun. Syringe and water it freely; give it a well drained rich loam, with occasional doses of manure water, and it will surprise you with its beauty. In the house, water this plant very moderately during November, December and January. If its leaves begin to turn yellow, and drop off one by one, simply let it alone, by withholding water while it rests. In a little while it will perk up, as we human beings do after a good rest; suddenly it will begin to grow again; and soon your whole house will be flooded with the most delicious odor. At all times you must keep the leaves clean; use as small a pot as possible; and never cease to watch out for its mortal foe, the invincible Scale.

Olea was the old Latin name for the Olive. The members of the family, natives of various tropical countries, are quite numerous. *Olea Fragrans* is a synonym of *Osmanthus Fragrans*; you will frequently find it classified under both names, *Olea* and *Osmanthus*. It is exceedingly beautiful, and nearly hardy. I have never grown a plant that has given less trouble and more pleasure.

OLEANDER

Nerium Oleander. A good plant when well grown. Oleanders must be freely exposed to sun and air during the spring and summer when they are making their growth, as the flowers that come later are produced only on well ripened shoots. After flowering, withhold water for a while to allow them to rest; then cut them back that they may make new growth before winter. When in bloom, they cannot get too much water; and they revel in a very rich soil, about equal portions of loam and well rotted manure. They give some trouble in the house on account of being subject to several insect pests, particularly Red Spider, which you cannot see with the naked eye, Mealy Bug and Scale. The only remedies are frequent sponging, and, if the despoilers are very bad, whale oil soap. Or you can put the plants away where they will not freeze, keep them dry and allow them to rest.

Neriums, or Oleanders, come in red, pink, yellow and white.

Many people think of an Oleander as somehow connected with a German beer saloon. But if they could see them, as I have, trained like small trees with a large head literally covered with a lovely mass of bloom, they would soon change their opinion of the plant. To fully realize their beauty one should see them in the South, where they are used for shade trees, as we do Maples, to line the sidewalks. They are easily increased. Cuttings from matured new wood, will readily root in earth, or in bottles of water hung in the sun; they can be potted afterwards.

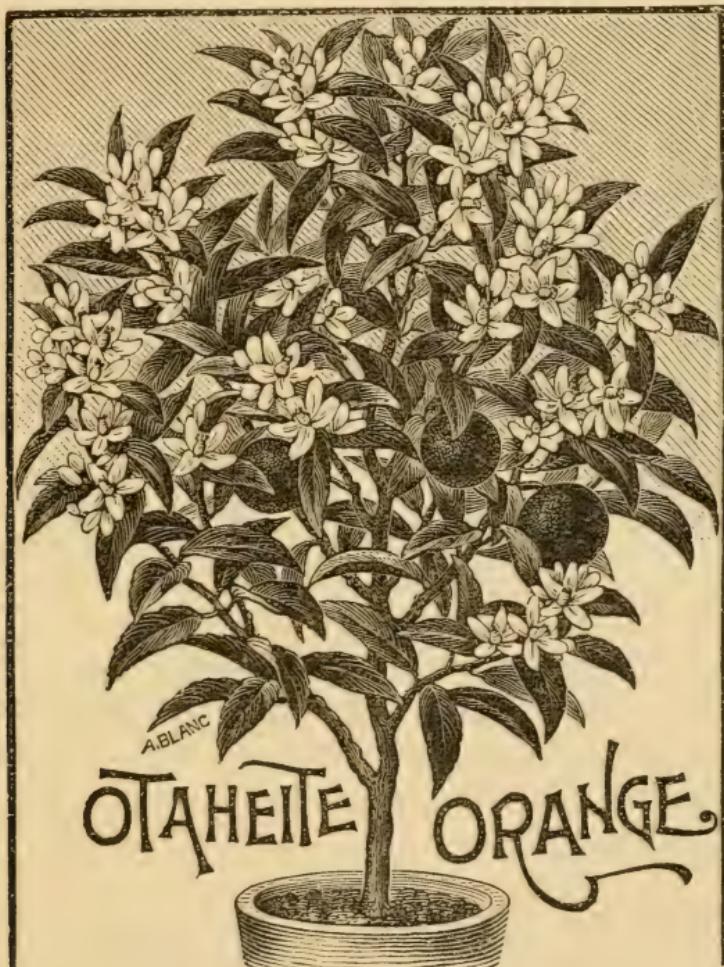
ORANGES

Otaheite Orange. These beautiful dwarfs are quite hardy, growing on with little care from year to year, a constant source of delight. They want a good loam, mixed with well rotted manure and sand, or crushed charcoal, to make it porous, that it may drain readily. Pots should not be too large; and be sure that the drainage is good; but never let them get entirely dry at the roots. During the three winter months they will want rest, and will not require so much water. About February they will begin to grow again, and will need plenty of water, with occasional doses of liquid manure. At all times watch for bugs, these plants being greatly troubled with Scale, Mealy Bug and Red Spider. But keep the leaves clean, and you will get rid of the pests.

In the spring, sink them in a warm place where they will get the full benefit of the sun. Mulch the pot well with old manure; and let them be syringed, and thoroughly soaked with water every day, when the sun is down, but never when it is shining on them. I have one, about two feet high, that for several months was a mass of flowers and green fruit, having begun to bloom in the latter part of last February. It stayed out all summer; was taken in in the fall; and has ripened its fruit during the winter, bearing as many as twenty-four lovely little golden balls at this time. It will have blossoms, green fruit, and ripe fruit on together; and while the fruit is of poor flavor, the whole plant is beautiful to look at, and exceedingly decorative.

As was said in regard to Pandanus, should its leaves turn yellow and begin to fall, you may know that it is getting too *much*, or not *enough* water; or that it

is infested by one, or all of its enemies. Do not change pots until the plant is absolutely pot-bound; and that condition can be deferred by digging out some of the old soil carefully, so as not to disturb the roots, and filling up with fresh rich loam.



If you will char a few bones, crush them and mix with the soil, your plants will greatly appreciate the attention, and repay you with increased florescence that will fill your house with fragrance. A judicious cutting or pinching of the points, will make the heads thicken and keep the plants in good shape; but do

this before they begin to bloom. If, however, no training is attempted and a free growth allowed, they will have a better chance to develop their natural habits.

As pot plants they leave nothing to be desired; they are, moreover, growing in favor as a table decoration, for which they appear to be well suited, on account of their beauty when covered with bloom, or ripened fruit, and of their dwarf habit. Mine were only about five inches high when I received them, and even then were in bloom; so there is no long tedious waiting for them to reach maturity and give us pleasure. Another good thing about them is that the fruit remains on the plant for months after ripening.

There are other Oranges which are said to be more desirable, of which I have had as yet no personal experience; but I intend to try them this coming season. They are pronounced exquisite in flavor, and very prolific.

Satsuma, some florists claim, is the best Orange for pot culture. It produces delicious fruit even when quite small; and is of very dwarf habit, occupying but little space. Its fruiting capacity is said to be perfectly wonderful.

Citrus Japonica, or Kumquat, is another pretty Japanese Orange. The fruit is very small and is eaten without peeling. The rind is aromatic, the pulp acid. Being a dwarf growth, with glossy leaves and quantities of flowers and fruit, it is excellent for room decoration. It should be kept rather dry in winter.

These two with Otaheite ought to fill your house the whole year with the delightful odor of Orange

blossoms, of which one is apt never to tire. Then, if taken care of, they can be handed down as heirlooms, for Oranges live to be very old. It is declared that in Cordova there are Orange trees six or seven hundred years of age, and still alive.

Besides the Orange tree, there are other fruits which, if you are fortunate in your care of them, can be grown in pots, or tubs—for in time they outgrow pots of ordinary size—notably the Lemon and Fig.

The Japanese, with their wonderful art of stunting nature—which I hope to discover some day—had on exhibition in San Francisco some lovely miniature Apple and Cherry trees in full bloom. You can imagine how interesting and beautiful either would look as the central ornament of a dinner table.

I do not know why our florists have never tried this dwarfing; but I have not met with one who had any idea of how it was accomplished, until recently when I was discussing the subject with an intelligent man. He informed me that he was assured it was done by “root pruning and keeping them pot-bound.” He said that he had frequently potted and grown Peaches which he had kept quite small by simply turning them out without disturbing or breaking the ball of earth, slicing this with some sharp instrument right across the bottom, as one would a loaf of bread; and then repotting. They would soon throw out new fibrous roots from the cuts on the old root, and go on growing, thriving and bearing fruit. It must be very interesting; and now, having this small idea to work on, I think I shall begin to experiment with some fruit like the Peach or Cherry, as young trees can be bought cheaply, and if I do not succeed it will be no great loss.

ROSES

It is not a matter of surprise that the Rose should be termed the Queen of flowers. Through past ages, even to the remote days of the gods, it has reigned triumphant, and though the earth teems with innumerable, varied, and beautiful bloom that excites the admiration, yet all yield the palm to the Rose, and none dispute her sway.

Roses hold a prominent place in the world from a commercial point of view, and from their adaptability for all decorative purposes. In floral exhibits they generally take the lead; while for cut flowers they are unequaled. Their floriferous habit makes them respond generously to even mediocre cultivation, but when properly cared for they astonish us with the lavishness and gorgeousness of their bloom. In the sunny South, Roses run riot during the greater part of the year; in fact, I have seen them blooming outside at Christmas. There we have them to perfection and in profusion with but little labor; but here in the North it is a different story. Only certain varieties thrive outside, and even they are better for protection.

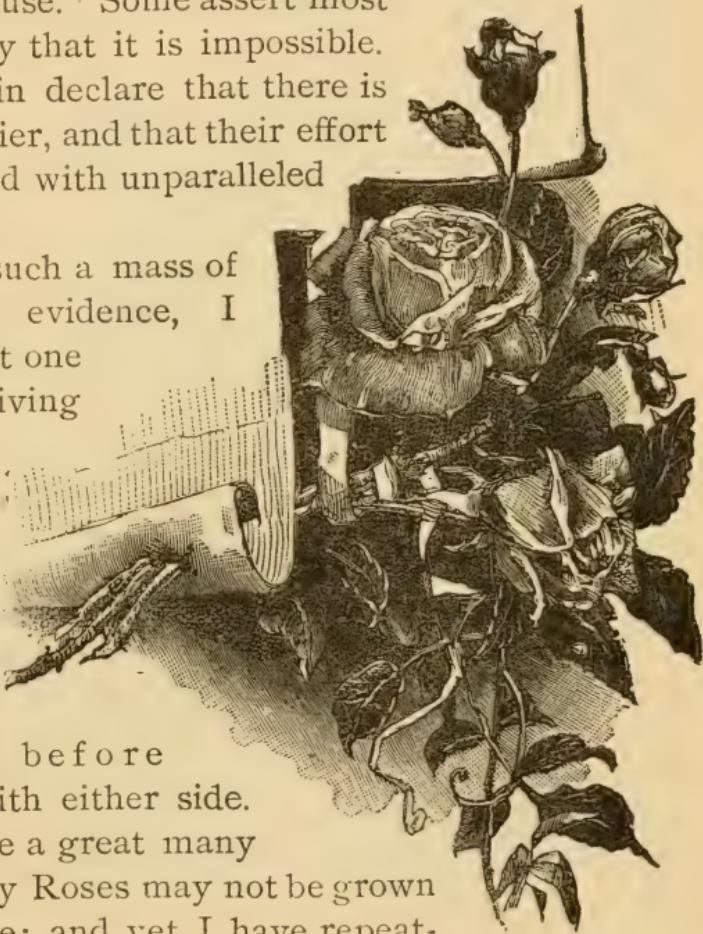
The Hybrid Perpetuals, an important branch of this enormous genus or order, are the kind planted out-of-doors. They are supposed to be perfectly hardy, and as a rule are so; but I find that a mulching, one foot or more thick, of leaves, or manure, or both, extending a couple of feet around the roots, put on in the fall, and forked in carefully—not so as to injure the roots—in the spring, does them a world of good. They emerge from the rigors of winter much stronger-looking, coming out of their long sleep with a brightness that seems to be almost smil-

ing up at one in thankfulness for keeping them so warm and comfortable, during the long, cold days that have flown.

There are various opinions in regard to the advisability of attempting to grow Roses of any kind in a dwelling-house. Some assert most emphatically that it is impossible. Others again declare that there is nothing easier, and that their effort was crowned with unparalleled success.

Amidst such a mass of conflicting evidence, I know of but one way of arriving at a definite conclusion; and that is to make the attempt one's self before agreeing with either side.

There are a great many reasons why Roses may not be grown in the house; and yet I have repeatedly seen them flourishing under what most people would call very adverse circumstances. The principal difficulties one has to contend with are insects, induced by the warm, dry atmosphere; and an insufficiency of air. They need air, yet it must never be allowed to blow upon, and chill them, as that will cause mildew



To avoid this be sure never to let currents of cold air strike them.

The following method of treating Roses should bring positive results in the way of bloom; but it can be carried out only with Hybrid Perpetuals:— Have them in pots of rich soil; sink to the rim in the ground during the summer season; and cover the pots well in the fall, just before frost, with leaves and manure, putting the manure on top of the leaves to prevent them from blowing away, and also to keep the plants warm without burning or scalding them, as it would do if it came in direct contact with the stems. Let this mulch be quite heavy to prevent the ground from freezing about them, as that would crack your pots.

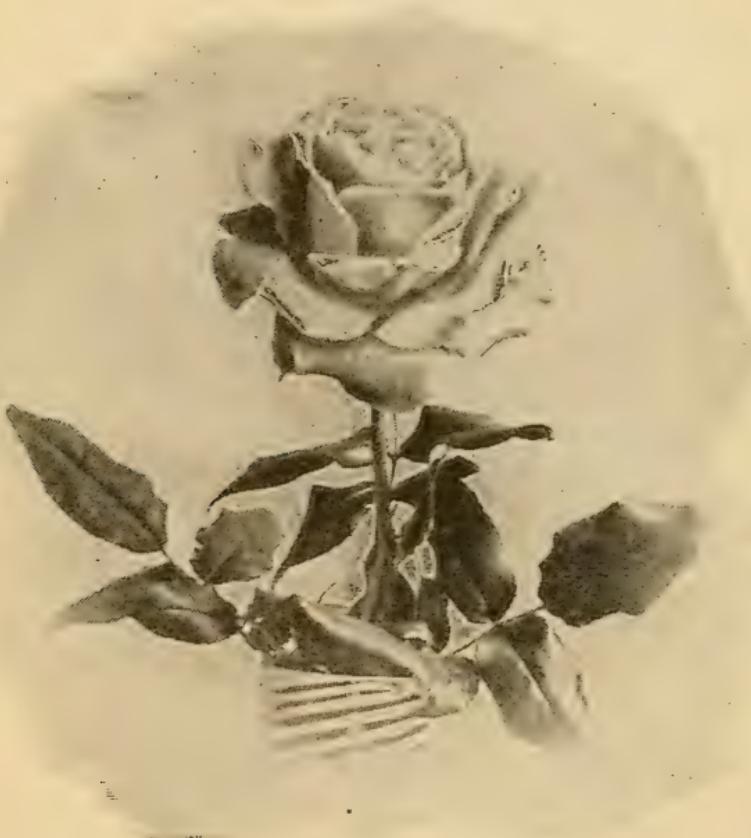
Should you have a cold frame, or pit, this would be the place for them; but wherever they are, the air must have free access.

Either of the above methods, the cold frame or leaf and manure covering, will keep the Roses dormant until you are ready for them. As soon as you see signs of the leaf buds swelling, or sooner if you want any of the plants, bring them inside to a warm atmosphere; and they should presently come into full leaf and flower. When they are blooming do not keep them too warm; and give moderately strong manure water once a week.

Guard against bugs. Sulpho-Tobacco soap is recommended for destroying the Aphides that may infest them; but I have never used it. Syringe with clear water as often as possible. That keeps the pests down.

Several important points are yet to be mentioned. If you wish to force your Roses, it is better to have

them on their own roots than grafted on Manetti, or Briar stock. Pot them in a rich compost with considerable well rotted manure in it, cow manure if possible; and be sure to prune them closely down to six or eight eyes, first in the early spring, taking out all the weakly or crooked shoots to give room



and air to the strong ones; then again cut them sharply back after they have flowered in June; cover them as suggested, in the fall; and take into heat one or more at a time, as you wish.

The short pruning is necessary to prevent the tops from getting too large for their limited quarters. Such pruning will give you more bloom, as the

flowers come on the new wood, and each individual Rose will be larger if there are not too many shoots to be supported and nourished by the small supply of earth.

When your plants are well established there is no need of repotting each year. If they are not allowed to become pot-bound and have healthy roots, they may get along with a rich soil worked in as a top-dressing, and by being given liquid manure when blooming; for Roses are quite ravenous, and like very rich food.

If you can bring them into about fifty degrees of heat at first, and gradually increase it to about sixty-five, with plenty of air on all fine or mild days, they should soon come into bloom. Keep them clean, and syringe them daily where convenient, or possible, until the flowers appear; then they will want the coolest position in the house with an ample supply of air; but let no cold draught blow upon them.

When they have finished blooming, they may be put outside again to go through the same process for another year, being kept watered and kept growing to mature the wood for the next season.

This treatment will not do for Tea Roses; they are tender and will not live outside except in mid-summer. If you have a pit or frame you can keep them nicely, and bring them into heat when needed. This should not be done unnecessarily. I have seen them kept in a cool dark cellar with good results.

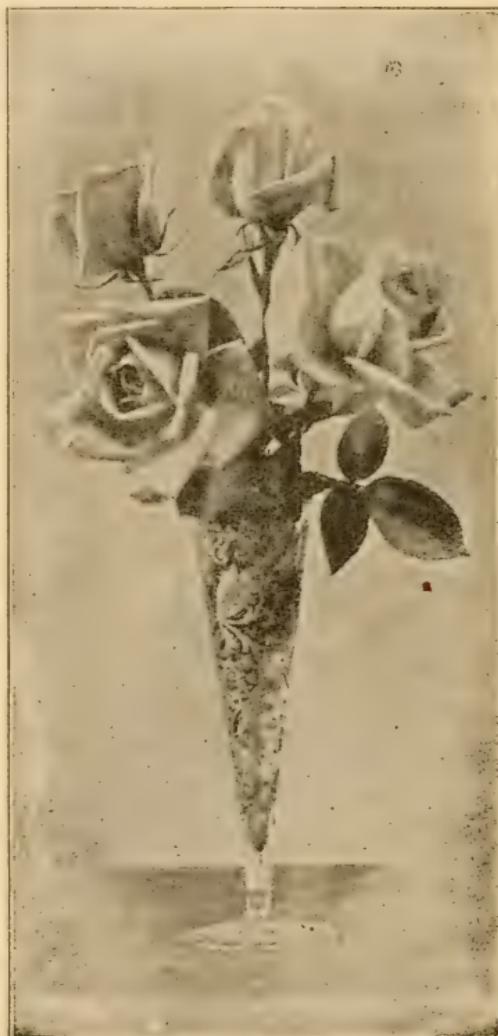
To grow Roses out-of-doors is another matter. The Hybrids need a good sunny location on well drained ground, preferring a rather heavy loam, one clayey rather than sandy; and, as I have said before, they do better with protection in winter.

Some varieties of Teas, or monthly bloomers, will thrive outside in summer. If, however, they get the entire strength of the sun all day, they are apt to become bleached out and to look somewhat like a faded blonde. But they are so lovely, and well worth a little extra care, that, if you have no shaded spot, you should improvise one to keep the midday sun from them. You may thus have bloom nearly every month.

Take these Roses up in the fall. If not in pots, pack them closely in boxes of earth, and put them away in some cool dark place where they will not freeze.

In the early spring they will be ready again for work.

There are a good many things to guard against in the cultivation of Roses. Out-of-doors they may be readily cared for and protected; but inside, the liability of insect attack is a nuisance. If I were to mention only a few of their foes, or the ills to which, like



poor humanity, they are heirs, you might be so alarmed that you would never attempt the growing of a single bush. But, while the name of these troubles is legion, you will probably never come in contact with any, excepting those of which I have already given warning: you may, therefore, make your venture without hesitation, as with a little precaution and some perseverance you should undoubtedly succeed.

The genus Rose is almost innumerable, and is being constantly added to by the raising of new varieties from seed, or by hybridizing; and to this last method we are indebted for many beautiful and greatly improved species.

The hybridization of Perpetuals with Teas, and other members of the genus, has given us such fine Roses as:

La France

Duchess of Albany

Madame Caroline Testout

American Beauty

Meteor

Dinsmore

And many others.

These are all strong growers, hardy, free bloomers, with beautiful coloring; and they are very fragrant.

The Teas I should not advise you to try.

Among Perpetuals the list is almost endless, and it is difficult to select, but I will mention a few that I think simply perfect:

Général Jacqueminot

Ulrich Brunner

Mrs. John Laing

Magna Charta

Prince Camille de Rohan

Baroness Rothschild

Anna de Diesbach

Paul Neyron

John Hopper

Boule de Neige (Ball of Snow)

CHAPTER IX

VINES, CREEPERS AND BASKET PLANTS

Clematis

Ivy

Lysimachia

Manettia

Mimulus

Othonna

Solanum

Tradescantia

Vinca

CLEMATIS



HIS is a beautiful vine for outdoor decoration; and indoors the conservatory sorts can be potted and grown in a temperature of from forty to fifty degrees. Their culture is the same as that of the hardy ones. They like a rich loamy soil, with a good share of manure, and enjoy liquid manure also; this helps them when flowering to produce more numerous and richer bloom.

A pretty way to grow them outside, is to firmly insert three tall stakes, triangularly, in good rich ground, fastening the tops securely together with wire, for the plants to run on; then put one or two of the vines at the foot of each stake. It is well to use contrasting colors. They will soon climb up, with a little assistance at first in the way of tying, to show them how they should go. Keep the soil rich

by mulching with old manure; water them freely; and you will presently rejoice over the beautiful results obtained.

There are many other ingenious methods of growing vines; but I must not deprive you of the joy of discovery, and shall leave you to invent some for yourself.

The common name for *Clematis* is Virgin's Bower.



CLEMATIS

Clematis Lanuginosa is said to be the best for running on trellises or verandas; if well fed it will rapidly cover a large space, and be weighted down with quantities of bloom. This type does not require much cutting back; only the dead wood should be cut out. Any more severe trimming tends to weaken the plant by stopping its growth, and gives

you fewer flowers. Its flowers are formed on the new wood made each season.

Clematis Jackmanni, a fine variety, has a thickly massed bloom which continues for quite a while. It was produced by the successful efforts at hybridization of Mr. George Jackmann, of Woking, in Surrey, England. Many other hybridizers have supplied us with a large number of beautiful specimens.

The following are all good and will give satisfaction:

Duchess of Edinburgh, a fine large double white,

Henryi, a quick grower,

Clematis Coccinea (scarlet), a slender graceful species,

Clematis Fortunei, a fragrant white,

Clematis Vitalba

Clematis Viticella

There are also non-climbing bushy specimens, among which we find

Clematis Davideana, a pretty blue.

IVY

Hedera was the old Latin name, used by Ovid, Pliny, Virgil and Horace, for our well known Ivy. It is one of the most useful of vines or climbing shrubs for covering unsightly places. It will stand considerable ill usage, but is better pleased with a favorable position and some attention.

Ivy does best in a very rich soil; and given an abundance of water it will grow rapidly. It can be grown in well drained pots, and trained on a small circular or flat trellis in the house, where it does remarkably well, if guarded from Scale Bug. While it is perfectly hardy outside, I nevertheless always

cover the roots at least a foot deep with leaves and manure in the fall before the ground freezes; and the vine comes out beautifully in the spring.

Hedera Helix Canariensis. Irish Ivy, known in nurseries as *Hedera Helix Arborescens*, is the best for walls, and under trees. It is grown everywhere, both indoors and outside. If kept clean by frequent washing of the leaves, well watered, and if the pots are given good drainage, it will surprise you with its rapid growth.

German Ivy, also known as Parlor Ivy, is a lighter green, smaller-leaved variety, free, vigorous, and fine for baskets.

English Ivy, the well known favorite, can be used for many purposes, its rich dark green foliage looking handsome anywhere. This vine may be employed with good effect for table decoration in winter when flowers are scarce, and there are few places where you will not find it useful.

LYSIMACHIA

Lysimachia Nummularia, Loosestrife, Moneywort, or Creeping Charlie as it is generally termed, was appreciated even by the Greeks, being known to them under the name of *Lusimachion*. It belongs to an extensive genus, all of the easiest culture, liking moisture, and readily increased by division.

This is a handsome plant for baskets; it soon covers the bottom from view if left to itself, but will make a dense mat in a short time if you keep pinching off the terminal shoots. It is excellent for shady spots where nothing else will thrive, and if given quantities of water it will rapidly spread over the ground under

trees where grass will not grow. The flowers are inconspicuous but pretty, being a bright yellow; they look exceedingly well with other plants.

The following Lysimachias are all hardy perennials:

Lysimachia Atropurpurea, from Southern Europe, synonymous with *Lubinia Atropurpurea*, is an erect species with very dark purple flowers in drooping racemes.

Then we have the following, which are all erect plants from two to three feet high:

Lysimachia Ciliata, light yellow

Lysimachia Clethroides, white

Lysimachia Lanceolata, yellow

Lysimachia Vulgaris, common Yellow Loosestrife.

Among them all my preference is for *Nummularia*, and I think you will find it the most useful and adaptable of the family for a variety of purposes and places.

MANETTIA

If you like a pretty vine that can be trained in any way to suit your fancy, get a *Manettia*. The climbers included under this name come mostly from sub-tropical Australia, and the warm portions of our own country. They are of easy culture, very graceful, and lovely when covered with hundreds of their brilliant little blossoms, especially so on a gloomy winter day. There are about thirty of the species, most of them ornamental. Some are evergreen, others herbaceous. The flowers are white, blue, or red and yellow, funnel-shaped tubes with hairy throats on axillary peduncles.

These plants like a compost of equal parts of loam, sand, and peat.

Manettia Micans, from Peru, is a handsome strong grower, and one of the best; but I have never seen it offered by any florist. It is covered with a profusion of rich orange flowers in early winter.

Manettia Bicolor is a bright scarlet at the lower part of the tube, shading into yellow towards the apex; it blooms about March.

Manettia Cordifolia is a useful variety with scarlet flowers, blooming through the winter and spring.

I keep Manettia in pots with wire trellises or miniature pillars attached, sinking the pots outside in some shaded position where the vines will not get the full strength of the sun, giving occasional doses of manure water, syringing freely every afternoon, trimming them into shape if they extend beyond their quarters, and training as I wish them to grow.

In the fall they are a lovely sight with their delicate masses of foliage and flowers. They are now ready to be carried within, where, if sprinkled daily and not kept in too dry a heat they will go on growing—that is, the evergreen species will. The herbaceous ones may die down, and have to be put away for another season where they will not freeze, to come out again stronger than ever in the spring.

They can be increased by cuttings, which will root readily during summer. They are very clean vines. I do not know of any insect that is partial to them, my vines never having been troubled.

MIMULUS

Mimulus Moschatus—from *mimo*, an ape or actor, and the Low Latin *moschus*, musk—is another lovely

basket plant. It is a little creeping half hardy perennial, to which I am very partial, being particularly fond of its delightful fragrance, and its soft, wooly, cool-looking foliage. This is the common Musk Plant. It is not at all difficult to grow, and is propagated by division of the roots or by cuttings.

Mimulus Moschatus likes a good soil, moderately rich, with considerable water, and partial shade. It looks equally well in pots, or baskets. Like *Lysimachia*, it also has a small yellow bloom that soon covers the entire plant. It belongs to a genus of some forty members, but this is perhaps the only one which you will need for the house.

There is a double-flowering variety of this species that is very fine.

Mimulus Moschatus Harrisonii is one of the stronger growers, and larger-flowered than other sorts of *Mimulus Moschatus*, but is seldom offered by florists.

Mimulus Cardinalis, with red flowers, and growing from one to three feet high, is a hardy perennial found over a large part of the United States and Mexico.

Mimulus Glutinosus, with buff or salmon-colored bloom, is an erect, handsome greenhouse shrub, which flowers during nearly the whole year.

Mimulus Lewisii, rose-colored and erect, is hardy and herbaceous.

Mimulus Luteus, yellow, commonly called Monkey Flower, is a half hardy annual.

Mimulus Luteus Cupreus is a pretty species, from which many beautiful hybrids have originated.

Mimulus Repens, having comparatively large lilac-colored flowers, with yellow-spotted throats, is a

dwarf greenhouse or half hardy perennial from Australia.

OTHONNA

Ragwort. This is a quite numerous genus of nearly hardy greenhouse shrubs or herbs, with inconspicuous yellow flower heads; it is of the easiest cultivation, thriving in almost any kind of well drained porous soil.

Othonna Crassifolia is a very pretty trailer for a basket or vase, doing well outside in summer, and in the house in winter. When it becomes too long it may be cut back freely, as it soon forms new growth; and these cuttings root readily to make new plants.

SOLANUM

Nightshade. Nearly nine hundred of this immense genus have been described, and a special chapter might well be devoted to them. I shall not, however, frighten you by presenting all the enormous family, but shall confine myself to the most interesting and useful members. To begin, I must not slight

Solanum Tuberosum. This, if not particularly ornamental, is the most useful member of the group, being our indispensable Potato; but I shall not enter upon its merits, with which most of us are familiar, as the present article is not on farming, though I could tell you how to grow it successfully, if necessary.

I wish to advocate the claims of several more beautiful members of the family:

Solanum Jasminoides is a pretty, hardy climber from South America. It is a profuse bloomer with bluish-white Jasmine-like flowers.

Solanum Seaforthianum bears in lavish profusion large hanging clusters of lilac-blue flowers. This lovely variety comes from the West Indies; it has fine-cut foliage, and star-shaped flowers of delicate blue, with golden stamens; the bloom is followed by bright red berries which remain on the plant for



SOLANUM

weeks. It is a dainty summer climber, and takes its last name from the discoverer, Seaforth.

Both of these will do well in the house if given a cool position, all the air possible, and if the foliage is frequently sprinkled. Grown in pots outside in summer and trained on light wire trellises, then, when brought in in the fall, placed near some window, they make an attractive appearance. They should be cut back sharply in the spring, and any straggling growth should be kept within bounds by the pruning-shears at all times.

Solanum Pseudo-Capsicum, Jerusalem Cherry, is one with which many of us are acquainted. The members of this group are handsome shrubs, and good house plants if properly cared for. When hanging full of their pretty red berries, they make an effective contrast with the green of other plants. They were especial favorites with some of our grandmothers, who appeared to understand the wants of these Solanums and to know how to succeed with them. I have vivid recollections of large well shaped plants literally covered with brilliant scarlet or yellow balls, which I was allowed by their proud possessors to gaze at with eager eyes, but never to touch. With change of locality and maturing years I have gradually lost sight of them, meeting only a chance specimen here and there. Their decline in favor is due, possibly, to the dry furnace heat we now employ, making it more difficult to cultivate them in our dwellings. Yet they can be made to thrive in our houses by simply keeping them cool, and giving frequent showerings overhead to moisten and cleanse the leaves. A cool window, where they get only the morning sun, will be best for them; and if a little of the outside air creeps in around the sash so much the better.

Solanums succeed in any rich loamy soil. When headed back in the spring, and trimmed into a neat round shape, they will throw out new wood, and plenty of bloom, to change later on into brilliant berries, which will make your bushes resemble miniature Cherry trees. These may be sunken outside in a shaded position during the summer, when they make fine growth. Occasional doses of manure water are beneficial at this time. Turn your pots fre-

quently to keep the plants from being drawn by the sun. Also watch and see that they do not become pot-bound. Water them freely every day, both overhead and at the roots, as they must not dry out.

In winter keep them clean; and water them carefully, lessening the supply to give them time to rest, yet still not letting them get dry, which would cause them to drop both berries and leaves. If kept cool enough, they will frequently retain the berries from one season until the next crop is coming on.

There are other edible Solanums besides the Potato, such as:

Solanum Melongena, our Egg Plant, or the French Aübergine.

Lycopersicum Esculentum, the widely grown and extensively used Tomato, the Love Apple of our fathers, is an honorable member of this order Solanaceæ.

Some people may not appreciate Solanums on account of the slightly unpleasant odor of their leaves. I admit that this might be an objection were a large number of the plants massed together; but the odor is not to be detected unless the leaves are bruised, and only hypersensitive olfactories could be affected by one or two specimens. At all events, if you can successfully grow them you will soon become their champion, and laud the pleasing effect of their brightness among your more sombre greens.

TRADESCANTIA

This plant was named after John Tradescant, gardener to King Charles I. of England. The common name is Spiderwort. It is a genus of more than

thirty greenhouse, or hardy, perennial herbs, indigenous to North and South America. They are exceedingly easy plants to grow, succeeding in any good soil if kept sufficiently moist; and cuttings from them will root readily at almost any time.

Wandering Jew is the only name by which many people know several of the species of creeping Tradescantias. These varieties are commonly used in hanging baskets and in vases, which they quickly convert into masses of green, if the vines are kept pinched at the points, and are given an ample supply of water. They are moisture-loving, and will grow even in vessels of water.

Tradescantia Discolor, an upright-growing species with beautifully marked, lanceolate leaves, often quite purplish beneath, on short, stiff, erect stems, is an exceedingly pretty plant, differing in many ways from the familiar Wandering Jew. It is a stove perennial, but like the common variety does well in the house. While of easy culture, it likes a rich, moist soil. It is readily increased from cuttings.

VINCA

Periwinkle. Called Myrtle by most people. This is a genus of very pretty erect or trailing plants, some being hardy, while others are stove or greenhouse varieties. Hardy Vincas are good trailing plants for many purposes, growing in almost any soil, and when established spreading rapidly. They are readily increased by division of the roots.

Vinca Rosea, and Vinca Alba, which are sometimes called Madagascar Periwinkle, are among the best of the erect specimens, and are handsome plants

when fully developed. If the points are pinched out on young plants that are sufficiently started or established, they will become bushy, and will have greater blooming surface, as they flower on the new shoots.

Rosea and Alba are greenhouse plants, and must be taken in before frost. They grow only about a foot or two in height, and have tough stems. A good loam mixed with a little well-rotted manure suits them; and they should be carefully watered in winter. These plants bloom for a long time, and look lovely with their bright rose-colored or white flowers among the more sombre greens, but for some reason they seem to be but little known.

Vinca Major, and Vinca Minor, the latter of variegated form, are in general use for many purposes, such as vases, hanging baskets, carpeting under trees, or for shady places where grass will not thrive, and to a great extent in cemetery decoration.

CHAPTER X

MISCELLANEOUS

Araucaria

Nepenthes

Sansevieria

Colocasia

Pancratiums

Saxifraga

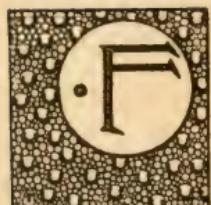
Cyperus

Philodendron

Selaginellas

Zamia

ARAUCARIA



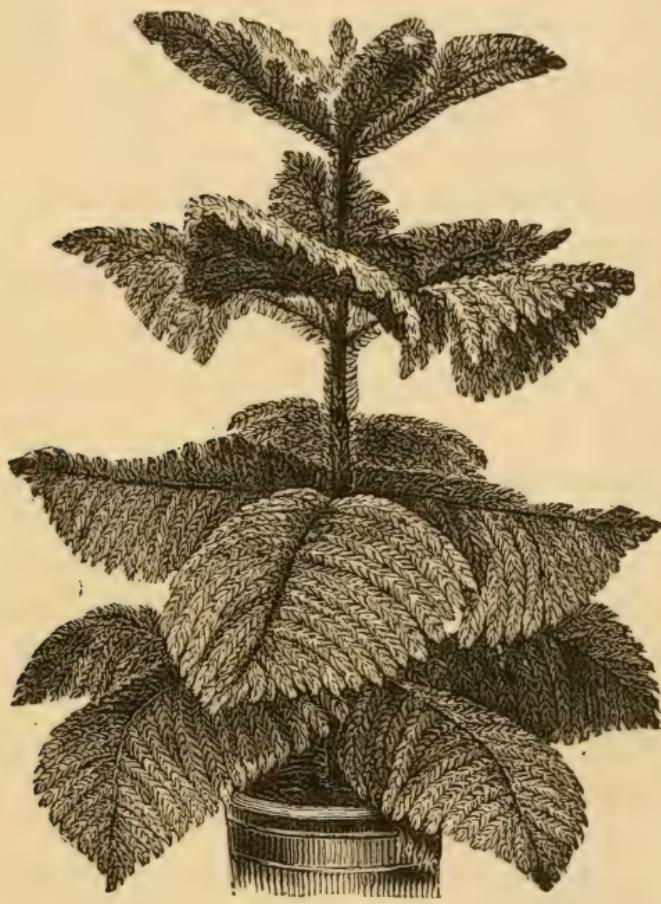
ROM *Araucanos*, the name it bears in Chili. It is a genus of lovely evergreen trees, of a symmetrical habit, and very effective for the house while it remains small enough to be manageable. This will be for a long time as Araucarias are slow growers.

These plants do well in fibrous loam mixed with leaf mould and sand. A very moderate amount of water is necessary during winter while they are in the house. They should be kept cool; much heat will dry up the foliage. Sink them outside in summer, and water well both roots and tops, when the weather is dry.

Some of the family grow to great heights:

Araucaria Balansæ, of New Caledonia, reaches a hundred and sixty feet in its native climate;

Araucaria Cookii (Cook's) attains a height of two hundred feet, an altitude which would be rather ungainly in a sitting-room.



ARAUCARIA

The latter, Cookii, with the following, are beautiful species, easily managed, and very satisfactory:

Araucaria Excelsa Glauca, }
Araucaria Excelsa Robusta, } Norfolk Island Pines.

They grow in popularity every year as they become better known, and in my opinion need only an introduction to be appreciated.

COLOCASIA

This is a small genus of herbaceous plants, which have perennial tuberous or creeping roots, or rhizomas, as they are botanically termed. A rhizoma, or rhizome, is a creeping stem, branch, or root-stock partly covered by the soil. While the tops die down, the tubers remain with you indefinitely, if taken care of.

They are grand-looking plants with their enormous, finely marked leaves; some of them are excellent for tropical gardening outside, and others as specimens in the house. Their culture is identical with that of Caladiums, belonging as they do to the same order, Aroideæ.

Colocasia Esculenta, sometimes called Elephant's Ear, is a well-known member of this family; it is easily grown outside, but not very desirable for window gardening. It should be planted out during the last part of May, or early in June, in a well drained position, and in light rich soil. Keep it supplied with sufficient water, and occasionally give liquid manure. At the first appearance of frost, cut off near the ground all the leaves but the middle one. In a few days lift the plant, and expose it to the air to dry; then put it away in some frost-proof room without dampness, perhaps in some dry cellar, until spring.

There are a number of beautiful Colocasias; they all need careful handling. In order to insure success with them you must bear in mind one thing: that they cannot be changed suddenly from the moist atmosphere of a stove house to the dry heat of a dwelling without danger of their entire loss, or at all events a loss of their leaves. They must be

“hardened off,” as florists say, by a gradual transition, first to a cool house, and then to your dwelling. If, when the weather is settled in June, you give them a shady outside position, sheltered from strong winds; and supply quantities of water to both leaves and roots; they will be prepared for going inside in September, before the days become chilly. They should then retain their health and beauty. But if, when you have done all this, they should lose their foliage, store them in a frost-proof place until spring; and carefully water them as gradually they show signs of life, until they are in full leaf once more.

CYPERUS

Cyperus Alternifolius. A fine member of a genus of nearly seven hundred rush, or grass-like perennial herbs, and the one most universally grown, on account of its graceful habit and easiness of culture. It throws up numerous, dark green, erect stems, crowned with long narrow leaves, arranged in an umbellate manner. It makes a lovely window plant, grown in pots of good loam, sand, and a little peat; it needs quantities of water, being aquatic in its nature.

These plants are readily increased by division of the roots; they are quite hardy. Their flowers are inconspicuous. They do well in shady positions, and respond vigorously to a treatment of weak manure water when in active growth; it is well,



CYPERUS

however, during the dull winter days to allow them a little rest, and not to keep up a forced activity with stimulants. Being naturally faithful workers, they require but little urging.

The particular species here mentioned grow from one foot to two and a half feet high. They came originally from Australia. Most florists of the present day class them among Palms, not that they belong to that family, but for convenience, as they are commonly grown in conjunction with Palms for decoration, and are termed by many the Umbrella Palm.

NEPENTHES

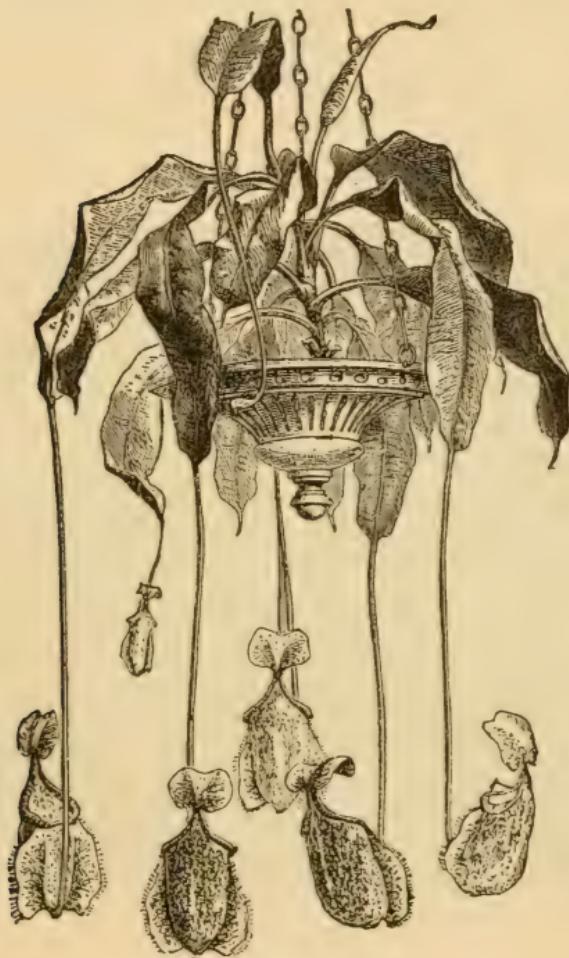
Pitcher plant. A curious bit of nature, and not difficult to manage. These plants do best in a compost of two parts peat, and one of sphagnum, in a hanging basket. They require an abundant supply of water in summer, but much less in winter. They must never get dry at the roots. Pitcher Plants like a moist atmosphere if possible. There are a great many varieties, some much more interesting than others; your florist will help you to a decision in selecting.

Nepenthes Atro-Sanguinea has pitchers of a reddish color spotted with yellow, and is a handsome garden hybrid.

Nepenthes Phyllamphora, from Borneo, is a very attractive strong growing species.

Many handsome Nepentheses are to be found in quantities in the swampy lands of New Jersey, and on the surface of certain lakes or ponds overgrown

with moss in central New York, notably on a small one in Otsego County, called Lake Misery. The



NEPENTHES

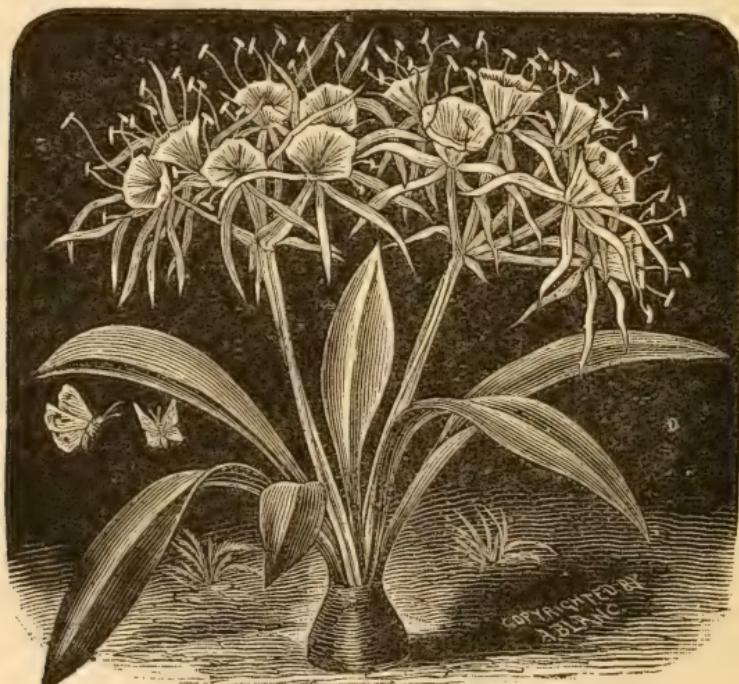
bogs of Florida teem with numerous varieties which revel in that moist hot atmosphere.

PANCRATIUMS

A small genus of pretty bulbous plants, natives of tropical countries like the West Indies, and also of the Canary Islands, and lands bordering on the Mediterranean. They are easily grown, in a com-

post of two parts loam to one of peat, and one of well rotted leaf mould, with some silver sand added. The rule is to water them freely when growing, but to give less when they are resting. Do not, however, let them get dry enough to droop.

They do not like to be disturbed; the less changing of pots the better, if the plants remain healthy.



PANCRATIUM

When it is absolutely necessary to shift them, be very careful to preserve all the living roots, and cut out any old dead ones. They should make rapid growth, and to do so they need a generous supply of food or nourishment. They can be planted outside in summer, taken up in the fall, and stored away; or they can be kept in pots all the while, and will grow on during the winter in a window where they get plenty of light. Their flowers are pure white, freely produced in large umbels, and are very fragrant.

Pancratium Maritimum is said to be hardy in mild climates; but I never trust any of mine to the tender mercies of our Northern winters, feeling more at ease in regard to their welfare when I see them safely reposing in some pleasant window.

Pancratium Illyricum is the only really hardy variety.

PHILODENDRON

From *philico*, to love, and *dendron*, a tree. An extensive genus of over a hundred climbing shrubs and small trees with spathaceous flowers, white, red, or yellow. The foliage is very handsome and varies greatly, all of the numerous species having individual peculiarities.

Philodendrons are not difficult to grow. Some people may tell you that they will not live outside of a greenhouse; but I know that they will for me. And why should they not for others as well? They are not exacting; but I should advise you to give them a rich friable compost, or leaf mould, if you can. The latter is always to be found in the woods, and if any are near at hand there is no trouble in securing it. Be sure that you mix enough coarse sand with whatever you use, to let the water pass through freely; the soil must not become sour or sodden.

These plants require an ample supply of water, and repeated syringing. During the summer or growing season, they will want all the atmospheric moisture you can give them, with just enough shade to keep the leaves from scorching. They rest in winter: therefore in this season they must be kept moist only, to prevent drying up, until they begin growth again.

Should they become too large for your purposes,

you can cut off the tops, and root them during the heat of summer to make new plants.

They are such a large family, and all so handsome, that a particular selection is difficult.

Philodendron Erubescens is a beautiful climbing species, having a stout stem that roots at nearly every joint.

Philodendron Mamei (Mons. Mame's) is a fine-leaved herb handsomely marked with white.

Philodendron Fragrantissimum has a cream-colored spathe with the base swollen and red. Its perfume is very strong and lasting. It should bloom about January. This variety comes from Demerara, and is often called Caladium Fragrantissimum

Philodendron Gloriosum, from Columbia, South America, is a superb foliage plant of climbing habit.

Philodendron Melanochrysum, also of climbing habit, is so lovely that words cannot do it justice. It is of slow or medium growth.

Philodendron Verrucosum (Warted), synonymous with *Philodendron Carderi*, and *Philodendron Daguenense*, is to my mind one of the most beautiful and brilliant of this family, which are all worthy of mention. It needs only to be seen to be highly appreciated.

SANSEVIERA

Bowstring Hemp. Named in honor of Raimond de Sansgrio, Prince of Sanseviero. These plants are a small genus of herbaceous perennials from South Africa and the East Indies. They give little trouble, and do well in the house, adding a pleasing variety to one's collection.

They like a sandy loam; and in winter, while rest-

ing, require scarcely any water, just enough to keep them from drying up. Should you wish more than one specimen, you will find that they are readily propagated by suckers. They may go outside in summer.

Sansevieras are not particularly beautiful, but they are odd-looking and worthy of a place if you have room for them.

Sansevieria Cylindrica, from South Africa, has thick rigid leaves measuring from three to four feet in length.

Then there are the following:

Sansevieria Guineensis, from Guinea;

Sansevieria Longiflora, long-flowered, with leaves half erect and white-spotted;

Sansevieria Zeylanica, from the East Indies. Also the garden forms of this last species.

SAXIFRAGA

This is a lovely genus of mostly hardy, perennial plants. They are nearly all attractive, being excellent for ferneries, jardinières and baskets—in fact, effective everywhere. They are the easiest things to grow, requiring simply an open soil and a moderate amount of water.

Saxifraga Sarmentosa Tricolor, called by a variety of other names, most of us will recognize under some one of these: Creeping Sailor, Mother of Thousands, Beefsteak Plant, or Strawberry Geranium; but under any name it will be as pretty.

Saxifraga Virginiana Flore-pleno is a good garden variety with pretty, white double flowers.

The following are all excellent:

Saxifraga Purpurascens, large-leaved, purple;

Saxifraga Peltata, Umbrella Plant, pale pink, or white;

Saxifraga Longifolia;

Saxifraga Geranioides (Geranium-like);

Saxifraga Crassifolia, thick-leaved, with large red flowers;

Saxifraga Cotyledon, with white flowers.

The following are strong robust forms of the last-named species, *Saxifraga Cotyledon*:

Saxifraga Nepalensis, common in gardens;

Saxifraga Pyramidalis.

If none of these give satisfaction and you wish for others, you must seek information concerning them from your florist, as the family is too large for me to undertake to describe them all here.

SELAGINELLAS

These are an enormous genus of over three hundred species, looking very much like Club Mosses, and often called by that name. They require a treatment similar to that of Ferns, and will thrive where the latter will. They grow well in any light soil, made porous by any intermixture of sand or charcoal. *Selaginellas* must be kept moist at all times, and in the shade. They are easily increased by cuttings, as they throw out roots at nearly every joint.

Selaginella Kraussiana is the Lycopod used for edging pots and growing in fancy shapes for table decoration, and other purposes.

The Lycopodiums are the real Club Mosses, but closely related to Selaginellas, and are also a large genus of lovely and easily grown plants.

ZAMIA

A genus resembling Palms, coming from tropical America and the West Indies. They belong to the order Cycadaceæ, and are mostly handsome greenhouse perennials.

Zamias should be potted in a mixture of equal parts of good soil and peat, with some silver sand added. They must be given plenty of water through the summer, and be shaded from the full heat of the sun.

In winter they require to be kept in a temperature of not less than sixty degrees. They will not need much water; the quantity must be regulated by the heat of your room. Should they grow sickly-looking, shake off all the loose soil you can; put the ball of roots into a pail of warm water, and let it remain until well washed; cut out any broken or decayed parts; and then repot them carefully with fresh earth. Keep the plants warm, and water them with the greatest care until they begin a new growth.

Zamia Furfuracea, from Mexico, is a handsome species with a cylindrical trunk.

Zamia Integrifolia, Jamaica Sago Tree, from the southern part of the United States, is a beautiful variety of Cycad-like appearance and very decorative.

Zamia Lindenii (Linden's), coming to us from Ecuador, is a stately plant and desirable.

There are many more of this family, of which I

have no practical knowledge; those which I have mentioned, however, are good specimens of the tribe, and will suffice for general purposes.

Keep their leaves clean at all times. They are propagated by seed, division when possible, or by offsets.

This family of Cycadaceæ is a very beautiful one, consisting, I believe, of only two genera, the Cycas and Zamia, natives of South America, India, China, and New Holland. They assimilate in many ways with Palms, Coniferæ, and Ferns; and are all fossil plants, appearing to have been the chief material of which considerable quantities of lignite or brown coal were formed.

According to Buckland, the geologist, "Many silicified fossil trunks of Cycadaceæ are found in the Isle of Portland lodged in the same beds of black mould in which they grew, surrounded by trunks of large coniferous trees changed to flint, and by stumps of the same trees, erect with their roots still planted in their native soil." It is an awful thought, to try to imagine what a fearful convulsion of nature there must have been to cover them up thus in all their vigor and strength.

CHAPTER XI

PROPAGATION OF PLANTS.

Cuttings

Division

Offsets

CUTTINGS

 ANY plants may be propagated without the slightest difficulty; and, having once obtained one of them, you should never again be deprived of that particular variety, if you really wish to retain it. I see no reason why you should not increase your plants, if they are of species that may be multiplied, from cuttings, offsets, division, or seed. I have spoken of these various ways and means in relation to individual plants, and shall endeavor now to explain my meaning as succinctly as possible, and show how the several methods are carried out.

Some people seem to have a faculty of rooting slips, or cuttings under difficulties; every plant they handle appears to thrive. I am not so blessed; and probably there are many others like me. There is only one perfect way for them all; and about this there is little trouble if you are a practical gardener and have proper appliances. But if you are simply an amateur, groping for knowledge, hoping for success, and longing for flowers, it is entirely

different. Outside of the regular routine, or gardeners' way, many suggestions on the subject have been made by various writers. I know, however, of but one way in which I have been fairly successful.

I have always found sand, good, sharp builders' sand, the best thing for my cuttings.

Take an ordinary deep soup plate, and fill it with the sand; wet the latter thoroughly, but not so as to have the water stand, or settle at the bottom. Select good, well ripened shoots; cut them slantingly downward, close to a joint or bud, with only the smaller or young leaves left on; and put them into your plate of sand about an inch, or one and a half inches apart, all around the edge, leaving the tops resting on the rim of the plate, with the lower ends which are to root, all extending towards the centre.

Different varieties will not interfere with each other, if they are not akin. Having put in such as you need, set your plate in the warmest, lightest place you have. If it is near a window where the sun shines on it and heats up the sand, so much the better. Only keep the sand wet, and you should see your cuttings in a short while begin to hold up their heads, and throw out leaflets from every joint.

Press the sand closely about your slips, to keep out the air; and be sure that the sand is not too wet, but just moist enough to remain in whatever position or form you may give it. If you make a hole with a stick in the sand, and the water settles in it, you may know that your sand is too wet. But you must also remember that when the plate is in the sun, or exposed to much heat, the water rapidly evaporates; and should the sand become entirely dry, you will lose all prospect of a new crop of plants.

Some of the more vigorous varieties root quickly, and if kept in the right condition may throw out leaves in a week. When they show five or six well developed leaves, gently take them out by slipping a flat-bladed knife under them, being careful not to disturb others that are less advanced. Plant the cuttings now in two or three-inch pots. Water them, and set them in the shade until they recover; then give them sun, or shade, whichever meets their requirements, with air overhead. You should have no further trouble but such as is necessary to keep them in good health.

Many different ways of rooting slips are advocated by various authorities; but I should advise your giving the method just suggested a thorough trial before abandoning it, unless you have a propagating bench in a well regulated greenhouse.

We have all, possibly, at some time seen, read, or been told how to root hard-wooded shrubs—such as Oleanders, and Cape Jasmines—in bottles of water hung in the sun; and this is a very good way when you cannot do better. The wood must not be too old and hard, or, on the other hand, too soft and green, but just a happy medium. In fact this rule applies to all cuttings or slips. I have found that a reliable test is when they break from the parent plant with a little snapping sound. Vice versa, if they are tough, stringy, and bend rather than break, you might just as well not bother with them.

In rooting Oleanders, and the like, when you have placed your slip in a bottle suspended by a cord fastened around the neck, if you pack raw cotton in the mouth of the bottle it will prevent evaporation to some extent; and a bit of charcoal will help to

keep the water sweet. When the slip has thrown out a sufficiency of rootlets, pour out most of the water, and fill up the bottle with good soil; then, when the soil is settled and moulded into form, carefully break the bottle. You can thus transfer to a pot with less danger of injuring or destroying these tender young roots.

DIVISION

There are innumerable members of the plant world which can be increased ad infinitum by simply dividing the roots. The tender and more delicate specimens need some care after division, while in many of the coarser and commoner varieties the smallest portions of root, when taken off and planted, will straightway grasp the soil and increase rapidly. These remind me of worthless members of the human species, who will pass through many dangers of annihilation and rise up phoenix like, while those who are bulwarks of strength against vice, and models of usefulness and encouragement, are daily taken from our midst.

When dividing a plant, of a kind that may be readily pulled apart by the fingers, you should carefully disentangle the roots, in such a manner as not needlessly to lacerate them; then place the separated pieces with their accompanying roots into different receptacles of soil to make other individual plants.

Various fleshy-rooted varieties, such as *Imantophyllum*, are easily increased in this manner without even disturbing the parent plant in its growth, or removing it from the pot. They throw up young

shoots; and if you simply run a knife down by the side of one of these new aspirants for public appreciation, and cut it away from the older subject, with more or less roots attached, and plant it in soil similar to that from which you took it, the young shoot will go right on growing; it will soon make another large handsome specimen to delight your eyes. This is the best way with plants of the type referred to; they seriously object to being molested and turned out of their pots for purposes of division. While this may be safely done with others, it might materially retard their progress.

In treating of *Adiantums*, I have already explained how they and similar plants may have the ball of roots, of a large old plant, divided. This is done by slicing through with a sharp knife from the top or surface of the soil downward, making sectional halves, quarters, or eighths, according to the size of the mass to be divided. The different sections so made are then to be planted in good rich soil to form other specimens.

This method of propagation by division of the roots, is a very important and valuable one; many of us who are not regular gardeners, and have none of the necessary appliances for plant production, would be at a loss how to multiply numerous species were it not for this wise provision of Nature.

OFFSETS

Very interesting to me is this miniature progeny. I never see them clustering about the base of a plant, clinging with all their feeble strength to the parent, but I think of little babies nestling close to the

mother, drawing sustenance and vitality until they are strong enough to stand alone.

So it is with these offsets, which are tiny lateral shoots bearing clusters of leaves; and they will form roots very quickly if taken off and planted in small pots, or flats such as florists use. Many plants throw out offsets, and are therefore easy to increase, the Pandanus, and others of its type, being examples of this habit.



CHAPTER XII

GENERAL REMARKS

UNIQUE TRELLIS

N my outdoor work I have carried out some practical ideas that may be of benefit to others.

The indispensable clothes post preyed upon my sense of the beautiful until it became a veritable nightmare, filling my dreams with visions of small city lots, rendered yet smaller in appearance by four or six sentinel posts, supporting inartistic lines of sagging rope, until I became quite desperate and determined to be rid of them at any cost.

I pondered over the problem for many weary hours, and at length solved it. My first command, which related to the wooden clothes posts, startled the whole household into violent protest.

"Dig them out," I said, "and carry them to the wood pile; they will do for kindlings."

One and all expostulated, saying, "What shall we do? we must have them."

"Be patient a little while," I answered, "and I shall show you what will supersede this incubus."

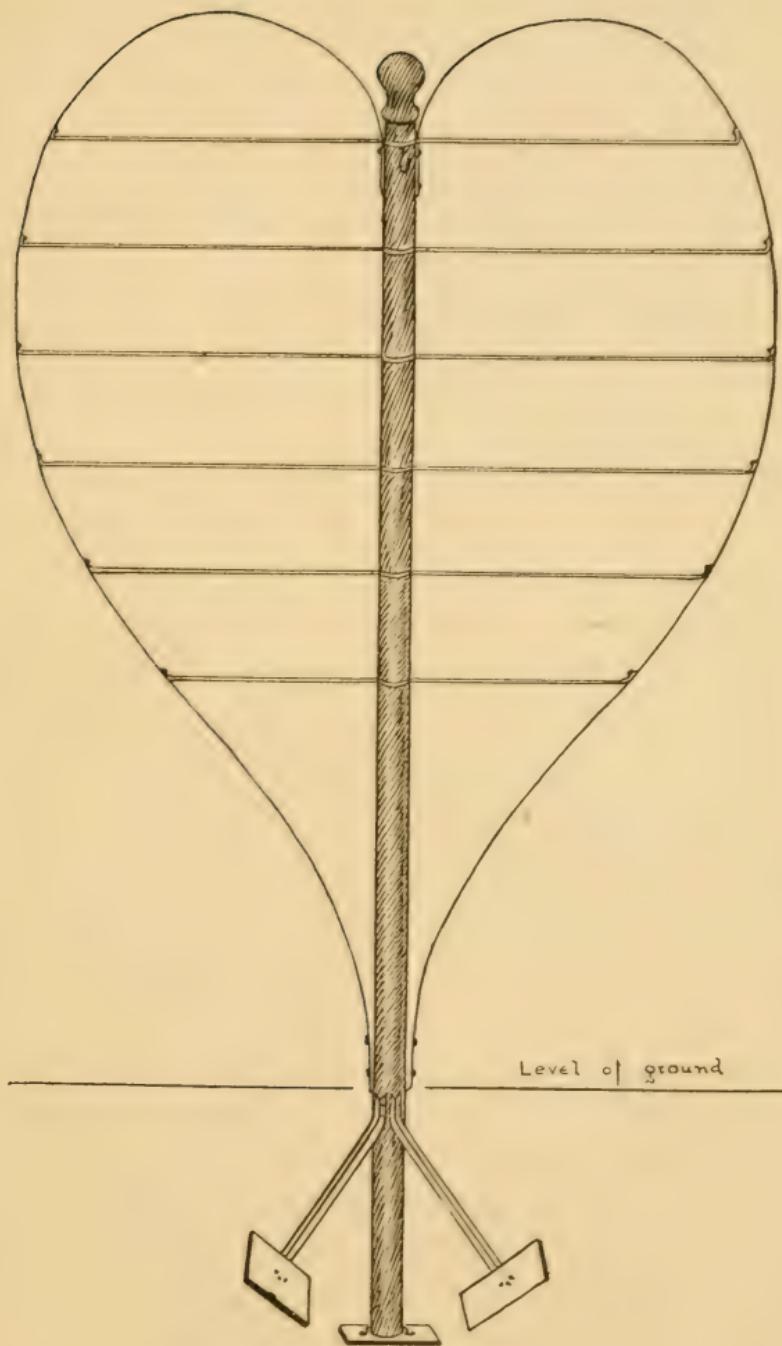
I sent for the blacksmith, and instructed him to make me some iron posts of two and a half inch gas piping ten feet long.

Each of these, when finished according to directions, was as follows: Two legs or struts of angle iron, two or three feet long, placed at an angle of about forty-five degrees downwards, are strongly bolted to the iron post at a point two or three feet above its base. These struts, which are each shod at the end with a square or shoe of iron, are intended to bear the principal strain upon the post, and keep it upright.

A flat iron strip, about a quarter of an inch thick by an inch wide, is riveted to each side of the post near the top; they are then sprung out in a heart-shaped curve—the two pieces giving a span of six feet at their greatest width apart—and brought gracefully down to the point where the post enters the ground; here they are securely bolted against the sides. Horizontal strips of lighter rounded iron run across this heart-shaped span at distances some ten inches apart. The top of the post ends in a round ball; and on the face of the post, at the point where the heart shape rises and curves outward, is a stout hook well turned up.

That part of the trellis which will be above ground is now painted a very dark inconspicuous green. The underground portion is protected against rust by metallic paint. The lower end is firmly embedded in the soil to a depth of two feet. Against the square shoes a convenient boulder has been placed; and likewise another boulder at the foot of the post, on the side opposite that on which the line will pull. In filling in, the earth has been carefully pounded.

All the posts or trellises, now complete, are stationed at suitable distances around the inner edge of a carriage drive which skirts the lawn; they are therefore on the outer margin of the lawn, which is



UNIQUE TRELLIS

left free and clear. The hooks on the trellis posts all face inward over the lawn. Attached to them are wire lines, almost invisible against the sward.

At the foot of these trellises are planted the hardiest of monthly blooming climbing Roses; and when they are a mass of flowers from bottom to top, as they are the greater part of the season, I feel rather elated at an achievement which elicits praise from all beholders, and am thankful that mother wit has downed my incubus and converted it into an object of usefulness and beauty.

Should some untoward winter destroy the cherished climbing plants, I shall only have to purchase new ones, trusting that before this occurs industrious hybridizers will have produced more blooming climbers that will be entirely hardy. As it is, these so-called partly hardy ones which I use, give me but little trouble and the greatest satisfaction.

Coming as I do from a land where we have flowers outdoors nearly all the year, I sometimes lose patience with the scentless hardy running Roses generally grown North and blooming only in June. I use Gloire de Dijon, William Allen Richardson, Waltham Queen Number Three, Marie Lavelley, an excellent variety, Caroline Goodrich, Fürsten Bismarck and Marie Henriette. These are heavily mulched with long manure, two or three feet around the base or roots. The tops are laid down and well protected with leaves and a light covering of manure to keep them in place. This, however, should not be done too soon; moderate cold does not injure them.

Old stumps or dead trees can easily be made beautiful by planting vines at their bases, and train-

ing these over them until they are entirely covered. A stump covered with Ivy or *Ampelopsis Veitchii* makes a handsome stand for a vase.

In this concluding chapter I would like to reiterate and impress forcibly upon the minds of my readers a few of the salient points of house or window garden floriculture. Success is attainable only by close observance of a given regimen, which must never be lost sight of for a single day; should this occur, one's plants may pay the penalty of his or her neglect.

Always bear in mind that during the dull dark days of midwinter your plants must be watered with great care; and that it is much better to invest in a rubber plant-sprayer, and sprinkle their leaves, than to be continuously flooding their poor roots, which are trying to recuperate by a needed rest for another season's work. Moreover, you can easily increase the supply when they show signs of thirst. Also remember not to allow water to stand in the saucers, as it chills and rots the roots, and induces mould or fungi to collect on the pots.

Be sure that your plants get plenty of air; it is as absolutely essential to their living as it is to us. But at the same time guard them from draughts; for they are as susceptible to the pernicious effects of these cold currents as we are.

Do not spare the scissors and spoil the plant, but trim, tie and train it in the way it should go—unless it is some special subject that resents the shears. If you spare the shears, as a rule you will spoil the appearance of your plants, and they are apt to look

like untidy and unkempt weeds rather than delectable pets.

Never forget their insect foes, which though diminutive are a host in themselves and too formidable to be neglected. The most important thing to my mind is cleanliness, which is as near to godliness for the dear flowers as for ourselves; and if you keep your plants perfectly clean you have won more than half the battle.

There are innumerable plants which probably many of us have seen, admired, and desired to possess; and those of us who are blessed with hot-houses and conservatories to furnish proper requirements for plants can indulge our taste for the particular specimens that please our fancy. But in writing this little book, which is intended for those not so fortunate, I have endeavored to keep strictly within the lines of my personal experience, and to select for description and suggestion as to treatment only those plants which I know can be grown successfully in our living-rooms or houses. This undoubtedly may be done if my instructions are followed. I could write at length on a variety of subjects, of flowers that awaken admiration and make one long to possess them; but they would be of no use whatever for the purpose described, namely, permanent house decoration. Any one who induced you to invest in them would simply be defrauding you, unless the advice were given through ignorance.

I have told you of the plants which have done best under my care. There were, however, others that I could not induce to remain with us under any consideration. I trust this little book may come into

the hands of those who appreciate flowers as I do, and they will understand what a labor of love it has been to write it amidst manifold other duties.

I love every expression of the spiritual force of life, and have a wild longing to possess all plants, not being able to pass the humblest weed without a glance of admiration. They are so humanizing, and all appeal to me. I never cease to marvel at their wonderful construction, the regularity of their existence, their appearance and disappearance with the recurring seasons, and to realize the illimitable field of thought they awaken, of the Power that creates, guides, controls and directs their being.

How little most people—bright people too—know of the marvellous and amazing creations of the plant world. Though silent monitors, the flowers are not dumb, but speak to us through the delicacy of their scents, their intricate shapes, complex habits and the glorious penciling of their heavenly colors, that no human artist can command.



INDEX

A

	PAGE		PAGE
ABUTILON	131	AMARYLLIS	1
Boule de Neige		A. Belladonna	
Golden Bells		A. Equestre	
Santana		A. Formosissima	
AFRICAN LILY. See <i>Agapanthus</i>		A. Johnsoni	
ACALYPHA.....	134	A. Vittata	
A. Macrophylla		Hippeastrums	
A. Musaica		ANOTHERICUM	101
A. Wilkesiana, or Tricolor		A. Liliago	
ACHYRANTHES	79	A. Liliastrum	
ADIANTUM.....	26	A. Variegatum	
A. Capillus Veneris		ARALIA	136
A. Tenerum Farleyense		Sieboldi	
AGAPANTHUS.....	100	ARAUCARIA.....	184
A. Umbellatus		A. Balansae	
A. U. Albidus		A. Cookii	
A. U. Flore-pleno		A. Excelsa Glauca	
A. U. Maximus		A. E. Robusta	
A. U. Mooreanus		ARDISIA.....	137
AGERATUM.....	35	A. Crenulata	
ALOCASIA	80	ARECAS	116
A. Macrorhiza Variegata		A. Lutescens	
A. Metallica		ARROWROOT. See <i>Marnata</i>	
A. Sedeni		ARUM. See <i>Calla</i>	
A. Thibautiana		ARUM SANCTUM. See <i>Calla</i>	
A. Zebrina		ARUM, WHITE. See <i>Calla</i>	
ALOYSIA.....	135	ASPIDISTRAS	83
A. Citriodora		A. Elatior	
ALTERNANTHERA	82	A. Variegata	
A. Amabilis Tricolor		A. Lurida	
A. Paronychioides		AUBERGINE. See <i>Solanum</i>	
A. P. Magnifica		AUSTRALIAN FEATHER PALM.	
A. P. Major		See <i>Seaforthia Elegans</i>	
A. P. M. Aurea		AZALEAS	138
A. Versicolor		A. Indica	
		Ghent Azaleas	

B

PAGE

BALSAM. See <i>Impatiens</i>		BOWSTRING HEMP. See <i>San-sevieria</i>	PAGE
BARBADOES LILY. See <i>Amaryllis Equestris</i>		BRACKEN. See <i>Ferns—Pteris Aquilina</i>	
BASKET PLANTS. See <i>Vines, Creepers and Basket Plants</i>		BRAKE FERN. See <i>Ferns—Pteris Aquilina</i>	
BAY TREE. See <i>Daphne</i>		BROWALLIA.....	86
BEEFSTEAK PLANT. See <i>Saxifraga Sarmentosa Tricolor</i>		<i>B. Elata</i>	
BEGONIA.....	84	<i>B. Grandiflora</i>	
<i>B. Alba</i>		<i>B. Jamesonii</i>	
<i>B. Maculata</i>		<i>B. Roezli</i>	
<i>B. Metallica</i>		BRUGMANSIA. See <i>Datura</i>	
<i>B. Rex</i>		BRUNSVIGIAS. See <i>Amaryllis</i>	
<i>B. Rubra</i>		BULBS.....	1
<i>B. Vernon</i>		<i>Amaryllis</i>	
BELLIS. See <i>Daisies</i>		<i>Crocus</i>	
BERMUDA EASTER LILY. See <i>Lilium Harrisii</i>		<i>Gladiolus</i>	
BOURBON PALM. See <i>Latania</i>		<i>Hyacinthus</i>	
BOUWARDIAS.....	36	<i>Narcissus</i>	
<i>B. Humboldtil Corymbiflora</i>		<i>Nerines</i>	
<i>B. Jasminiflora</i>		<i>Ornithogalum</i>	
CABBAGE PALM. See <i>Oreodoxa Oleracea</i>		<i>Oxalis</i>	
CACTI.....	21	<i>Tulips</i>	
<i>Cereus</i>		C	
<i>Echinocactus</i>		CALATHEA. See <i>Maranta</i>	
<i>Epiphyllum</i>		CANDYTUFT. See <i>Iberis</i>	
<i>E. Truncatum</i>		CANDYTUFT, ROCKET. See <i>Iberis Coronaria</i>	
<i>E. T. Coccineum</i>		CANNAS.....	89
<i>E. T. Magnificum</i>		<i>Chas. Henderson</i>	
<i>E. T. Rückerianum</i>		<i>Eldorado</i>	
<i>E. T. Violaceum Superbum</i>		<i>Madame Crozy</i>	
<i>Mammillaria</i>		CAPE JASMINE. See <i>Gardenia</i>	
CACTUS, CRAB CLAW. See <i>Cacti</i>		CARYOTA.....	118
— <i>Epiphyllum Truncatum</i>		<i>C. Purpuracea</i>	
CACTUS, HEDGEHOG. See <i>Cacti</i>		<i>C. Sobilifera</i>	
— <i>Echinocactus</i>		<i>C. Urens</i>	
CALADIUM FRAGRANTISSIMUM. See <i>Philodendron Fragrantissimum</i>		CEREUS. See <i>Cacti</i>	
CALADIUMS.....	87	CHAMAEROPS.....	119
<i>C. Bicolor</i>		<i>C. Humilis</i>	
<i>C. Chantinii</i>		<i>C. Macrocarpa</i>	
<i>C. Esculentum</i>		CHINESE LILY. See <i>Narcissus</i>	
<i>C. Leopoldii</i>		CHRYSANTHEMUM.....	39
<i>C. Maculatum</i>		<i>Early-flowering Chrysanthemums</i>	
<i>C. Marmoratum</i>		<i>Incurved-flowered Chrysanthemums</i>	
<i>C. Verschaffeltii</i>		<i>Japanese Varieties</i>	
CALLA.....	106	<i>Large Anemone-flowered Chrysanthemums</i>	
<i>Black Calla</i>		<i>Late-flowering Chrysanthemums</i>	
<i>Gem Calla</i>		<i>Pompones Reflexed</i>	
		<i>Recurved Chrysanthemums</i>	

	PAGE		PAGE
CHRYSANTHEMUM Small Anemone-flowered Pompone Chrysanthemums		CORDYLINE. See <i>Dracæna</i>	
CLEMATIS.....	171	CORN FLAG. See <i>Gladiolus</i>	
C. Coccinea		CRAB CLAW CACTUS. See <i>Cacti</i>	
C. Davideana		— <i>Epiphyllum Truncatum</i>	
C. Fortunei		CREEPERS. See <i>Vines, Creepers and Basket Plants</i>	
C. Jackmanni		CREEPING CHARLIE. See <i>Lysimachia</i> .	
C. Lanuginosa		CREEPING SAILOR. See <i>Saxifraga Sarmentosa Tricolor</i>	
C. Vitalba		CRINUM.....	102
C. Viticella		C. Americanum	
Duchess of Edinburgh		C. Fimbriatum	
Henryi		C. Kirkii, or Nobile	
CLUB MOSES. See <i>Selaginellas</i>		CROCUS	3
COCOANUT PALM. See <i>Cocos Nucifera</i>		CULTURAL DIRECTIONS.....	112
COCOS.....	119	CURLY PALM. See <i>Kentia Belmoreana</i>	
C. Nucifera		CUTTINGS.....	197
C. Weddeliana		CYCADS.....	121
COLEUS.....	91	C. Revoluta	
C. Verschaffeltii		Dioon Edule	
Golden Bedder		CYPERUS.....	187
COLOCASIA.....	186	C. Alternifolius	
C. Esculenta			
CONVALLARIA. See <i>Lily of the Valley</i>			

D

DAFFODIL. See <i>Narcissus</i>		DIEFFENBACHIA	
DAISIES	47	D. Bausei	
DAISY, PARIS. See <i>Chrysanthemum</i>		D. Leopoldi	
DAPHNE.....	145	D. Magnifica	
D. Odora		D. Majestica	
DATE PALM. See <i>Phoenix</i>		D. Nobilis	
DATE, WILD. See <i>Phoenix Sylvestris</i>		D. Regina	
DATURA.....	48	D. Rex	
Brugmansia		D. Splendens	
D. Sanguinea		D. Triumphantis	
D. Suaveolens			
DIEFFENBACHIA.....	93	DIOON EDULE. See <i>Cycads</i>	
D. Baraquiniana		DIRECTIONS, CULTURAL.....	112
		DISBUDDING.....	40
		(See <i>Chrysanthemum</i>)	
		DIVISION.....	200
		DRACÆNA.....	94

E

EAST INDIAN WINE PALM. See <i>Phoenix Sylvestris</i>		ELEPHANT'S EAR. See <i>Colocasia Esculenta</i>	
ECHINOCACTUS. See <i>Cacti</i>			
EGG PLANT. See <i>Solanum</i>		EPiphyllum. See <i>Cacti</i>	

F

PAGE

FARFUGIUM GRANDE.....	96
FERN, BRAKE. See Ferns— Pteris Aquilina	
FERN, MAIDENHAIR. See Adiantum	
FERNS.....	26
Adiantums	
Nephrolepis	
Platyceriums	
Pteris	
FERN, STAG HORN. See Platyceriums	
FERN, SWORD. See Nephrolepis Exaltata	
FICUS.....	122
F. Elastica	
FIG. See Ficus	
FISH TAIL PALM. See Caryota	
FLAG, CORN. See Gladiolus	
FLAT PALM. See Kentia Forsteriana	
FLAX, LILY. See Phormium	
FLAX, NEW ZEALAND. See Phormium Tenax	
FLOWERING PLANTS.....	35
Ageratum	
Bouvardias	
Chrysanthemum	
Daisies	
Datura	
Fuchsia	
Geraniums	
Heliotrope	
Iberis	

GARDENIA.....	146
G. Florida	
GERANIUMS.....	53
Apple Geranium	
Bronze Geranium	
Ivy Leaf Geranium	
Lady Washington Geranium	
Lemon Geranium	
Nutmeg Geranium	
Rose Geranium	
Silver Geranium	

HEDERA. See Ivy	
HEDGEHOG CACTUS. See Cacti —Echinocactus	
HELIOTROPE.....	60
HIBISCUS.....	148
H. Coccineus	

PAGE

FLOWERING PLANTS	
Impatiens	
Lantana	
Mahernia	
Mignonette	
Nicotiana	
Pansies	
Petunia	
Phormium	
Plumbago	
Reinwardtia	
Salvia	
Violets	
FOLIAGE PLANTS.....	79
Achyranthes	
Alocasia	
Alternanthera	
Aspidistra	
Begonia	
Brownia	
Caladiums	
Cannas	
Coleus	
Dieffenbachia	
Dracena	
Farfugium Grande	
Maranta	
FOR SUCCESSION. Term used as to mode of planting	6
(See Gladiolus, Hyacinthus, Petunia)	
FRAGRANT VERBENA. See Aloysia	
FUCHSIA.....	50
F. Phenomenal	
F. Speciosa	
Storm King	

G

GERANIUMS	
Zonal, or Bedding Geranium	
GLADIOLUS.....	5
G. Colvillei	
G. Recurvus	
GOLDEN-RAYED LILY OF JAPAN. See <i>Lilium Auratum</i>	
GREVILLEA.....	148
G. Robusta	
GUERNSEY LILY. See <i>Nerine Sarniensis</i>	

H

HIBISCUS	
H. Rosa Sinensis	
H. R. S. Cooperi	
H. Schizopetalus	
H. Splendens	
HIPPEASTRUM. See <i>Amaryllis</i>	
HONEY BELL. See <i>Mahernia</i>	

PAGE	PAGE
HOWEA BELMOREANA. See <i>Kentia Belmoreana</i>	151
HOWEA FORSTERIANA. See <i>Kentia Forsteriana</i>	
HOYA..... 150	
H. Bella	
H. Carnosa	
H. Paxtoni	
HYACINTHUS..... 7	
Roman Hyacinths	
I	
IBERIS..... 60	
I. Coronaria	
I. Semperflorens	
I. Sempervirens	
IMANTOPHYLLUM..... 104	
I. Miniatum	
IMPATIENS..... 61	
I. Sultani	
J	
JAMAICA SAGO TREE. See <i>Zamia Integrifolia</i>	
JAPANESE FERN PALM. See <i>Cycas Revoluta</i>	
JASMINE, CAPE. See <i>Gardenia</i>	
JASMINUM..... 157	
J. Floridum	
J. Fruticans	
K	
KENTIAS..... 123	
K. Belmoreana	
K. Forsteriana	
L	
LANTANA..... 62	
LATANIA..... 124	
L. Aurea	
L. Borbonica	
LAURUS NOBILIS. See <i>Daphne</i>	
LEMON VERBENA. See <i>Aloysia</i>	
LIGULARIA. See <i>Farfugium</i>	
<i>Grande</i>	
LILIES..... 100	
<i>Agapanthus</i>	
<i>Anthericum</i>	
<i>Crinum</i>	
<i>Imantophyllum</i>	
<i>Lilium</i>	
<i>Lily of the Valley</i>	
LILIUM..... 105	
Black Calla	
Calla	
Gem Calla	
HYDRANGEAS.....	151
H. Hortensis	
H. H. Japonica	
H. H. Otaksa	
H. Paniculata <i>Grandiflora</i>	
H. Petiolaris	
H. Quercifolia	
H. Scandens	
Thomas Hogg	
INDIA RUBBER PLANT. See <i>Ficus Elastica</i>	
IVY..... 173	
English Ivy	
German Ivy, or Parlor Ivy	
Hedera <i>Helix Canariensis</i> ,	
Irish Ivy	
JASMINUM	
J. Gracillimum	
J. Grandiflorum	
J. Nudiflorum	
J. Revolutum	
JERUSALEM CHERRY. See <i>Solanum Pseudo-Capsicum</i>	
JONQUIL. See <i>Narcissus</i>	
KUMQUAT. See <i>Oranges—</i>	
<i>Citrus Japonica</i>	
LILIUM	
L. Auratum	
L. Brownii	
L. Bulbiferum	
L. Canadense	
L. Candidum	
L. Harrisii	
L. Longiflorum	
L. Roseum	
L. Speciosum	
L. S. <i>Albiflorum</i>	
LILY, AFRICAN. See <i>Agapanthus</i>	
LILY, BARBADOES. See <i>Amaryllis Equestris</i>	
LILY, BERMUDA. See <i>Lilium Harrisii</i>	
LILY, BERMUDA EASTER. See <i>Lilium Harrisii</i>	

PAGE	PAGE
LILY, CHINESE. See <i>Narcissus</i>	LILY, ST. BRUNO'S. See <i>Anthericum Liliastrum</i>
LILY, EASTER. See <i>Lilium Harrisii</i>	LILY, WHITE TRUMPET. See <i>Lilium Longiflorum</i>
LILY, FLAX. See <i>Phormium</i>	LINUM TRIGYNUM. See <i>Reinwardtia</i>
LILY, GOLDEN-RAYED OF JAPAN. See <i>Lilium Auratum</i>	LIVISTONA CHINENSIS. See <i>Latania Borbonica</i>
LILY, GUERNSEY. See <i>Nerine Sarniensis</i>	LOOSESTRIFE. See <i>Lysimachia</i>
LILY, MILK AND WINE OF NASSAU. See <i>Crinum Fimbriatum</i>	LOVE APPLE. See <i>Solanum</i>
LILY OF THE NILE. See <i>Calla</i>	LYCOPERSICUM ESCULENTUM. See <i>Solanum</i>
LILY OF THE VALLEY 109	LYCOPODIUM. See <i>Selaginellas</i>
Convallaria Majalis	LYSIMACHIA 174
LILY, PINK SPIDER. See <i>Nerine Japonica</i>	L. Atropurpurea
LILY, ST. BERNARD'S. See <i>Anthericum Liliago</i>	L. Ciliata
	L. Clethroides
	L. Lanceolata
	L. Nummularia
	L. Vulgaris
M	
MADAGASCAR PERIWINKLE. See <i>Vinca Rosea</i> , and <i>Vinca Alba</i>	MARSH MALLOW. See <i>Hibiscus</i>
MAHERNIA 63	MIGNONETTE 64
M. Glabratia	Reseda Odorata
M. Incisa	
M. Odorata	
MAIDENHAIR FERN. See <i>Adiantum</i>	MILK AND WINE LILY OF NASSAU. See <i>Crinum Fimbriatum</i>
MAMMILLARIA. See <i>Cacti</i>	MIMULUS 176
MANETTIA 175	M. Cardinalis
M. Bicolor	M. Glutinosus
M. Cordifolia	M. Lewisii
M. Micans	M. Luteus
MARANTA 97	M. L. Cupreus
Calathea Princeps	M. Moschatus
C. Tubispatha	M. M. Harrisonii
C. Veitchii	M. Repens
Maranta Bicolor	
M. Concinna	MONEYWORT. See <i>Lysimachia</i>
M. Nitens	MONKEY FLOWER. See <i>Mimulus Luteus</i>
M. Sagoriana	MOTHER OF THOUSANDS. See <i>Saxifraga Sarmentosa Tricolor</i>
M. Zebrina	MUSK PLANT. See <i>Mimulus Moschatus</i>
MARGUERITE. See <i>Chrysanthemum</i>	MYRTLE. See <i>Vinca</i>
N	
NARCISSUS 11	NEPHROLEPIS 31
Double Roman Narcissus	N. Exaltata
Paper White Narcissus	NERINES 13
Polyanthus Narcissus	N. Fothergilli Major
Chinese Lily	N. Japonica
Trumpet Major	N. Sarniensis
NEPENTHES 188	NERIUM OLEANDER. See <i>Oleander</i>
N. Antro-sanguinea	
N. Phyllamphora	

	PAGE	PAGE
NEW ZEALAND FLAX. See <i>Phormium Tenax</i>		NICOTIANA N. <i>Tabacum</i> N. <i>Wigandoides</i>
NICOTIANA..... 66		NIGHTSHADE. See <i>Petunia</i>
N. <i>Acutiflora</i>		NIGHTSHADE. See <i>Solanum</i>
N. <i>Affinis</i>		NORFOLK ISLAND PINE. See <i>Araucaria Excelsa</i>
N. <i>Fragrans</i>		O
N. <i>Glauca</i>		OFFSETS..... 201
OLEA..... 158		OLEA..... 158
<i>Olea Fragrans</i>		OLEANDER..... 159
ORANGES..... 160		<i>Citrus Japonica</i>
<i>Otaheite Orange</i>		<i>Satsuma Orange</i>
OREODOXA..... 126		ORNITHOGALUM..... 14
<i>O. Granatensis</i>		<i>O. Arabicum</i>
<i>O. Oleracea</i>		<i>O. Nutans</i>
<i>O. Regia</i>		<i>O. Thyrsoides</i>
<i>O. Sancona</i>		<i>O. Umbellatum</i>
<i>O. Vittatum</i>		<i>O. Vittatum</i>
PALM, AUSTRALIAN FEATHER. See <i>Seaforthia Elegans</i>		PALMS <i>Phoenix</i> <i>Seaforthia</i>
PALM, BOURBON. See <i>Latania</i>		PALM, SAGO. See <i>Cycas Revoluta</i>
PALM, CABBAGE. See <i>Oreodoxa Oleracea</i>		PALM, THATCH LEAF. See <i>Kentia Forsteriana</i>
PALM, COCOANUT. See <i>Cocos Nucifera</i>		PALM, UMBRELLA. See <i>Cyperus Alternifolius</i>
PALM, CURLY. See <i>Kentia Belmoreana</i>		PANCRATIUMS..... 189
PALM, DATE. See <i>Phoenix</i>		<i>P. Illyricum</i>
PALM, EAST INDIAN WINE. See <i>Phoenix Sylvesteris</i>		<i>P. Maritimum</i>
PALM, FISH TAIL. See <i>Caryota</i>		PANDANUS..... 126
PALM, FLAT. See <i>Kentia Forsteriana</i>		<i>P. Utilis</i>
PALM, JAPANESE FERN. See <i>Cycas Revoluta</i>		<i>P. Veitchii</i>
PALMS..... 112		PANSIES..... 67
<i>Arecas</i>		PARIS DAISY. See <i>Chrysanthemum</i>
<i>Caryota</i>		PELARGONIUM. See <i>Geranium</i>
<i>Chamærops</i>		PERESKIA STOCK. See <i>Cacti</i>
<i>Cocos</i>		PERIWINKLE. See <i>Vinca</i>
<i>Cycads</i>		PETUNIA..... 69
<i>Ficus</i>		PHALANGIUM. See <i>Anthericum</i>
<i>Kentias</i>		PHILODENDRON..... 191
<i>Latania</i>		<i>P. Eruescens</i>
<i>Oreodoxa</i>		<i>P. Fragrantissimum</i>
<i>Pandanus</i>		

	PAGE	PAGE
PHILODENDRON		
P. Gloriosum		PITCHER PLANT. See <i>Nepenthes</i>
P. Mamei		PLANTING FOR SUCCESSION.
P. Melanochrysum		See <i>For Succession</i>
P. Verrucosum		PLATYCYERIUM 33
PHÉNIX 128		PLUMBAGO 72
P. Canariensis		P. Capensis
P. Dactylifera		P. Coccinea
P. Reclinata		P. Larpentae
P. Rupicola		P. Rosea
P. Sylvestris		P. Scandens
PHORMIUM 71		POTATO. See <i>Solanum Tuberosum</i>
P. Cookianum Variegatum		PROPAGATION OF PLANTS 197
P. Tenax		Cuttings
P. T. Nigro Pictum		Division
P. T. Variegatum		Offsets
P. T. Veitchianum		PTERIS. See <i>Ferns</i>
PINE, NORFOLK ISLAND. See <i>Araucaria Excelsa</i>		PTYCHOSPERMA. See <i>Seaforthia</i>
PINE, SCREW. See <i>Pandanus</i>		PYRETHRUM. See <i>Chrysanthemum</i>
PINK SPIDER LILY. See <i>Nerine Japonica</i>		
		R
RAGWORT. See <i>Othonna</i>		
REINWARDTIA 73		ROSES
R. Tetragynum		La France
R. Trigynum		Madame Caroline Testout
RESEDA. See <i>Mignonette</i>		Meteor
RICHARDIA AETHIOPICA. See <i>Calla</i>		Anna de Diesbach
RICHARDIA AFRICANA. See <i>Calla</i>		Baroness Rothschild
ROCKET CANDYTUFT. See <i>Iberis Coronaria</i>		Boule de Neige (Ball of Snow)
ROMAN HYACINTHS. See <i>Hyacinths</i>		Général Jacqueminot
ROSES 164		John Hopper
American Beauty		Magna Charta
Dinsmore		Mrs. John Laing
Duchess of Albany		Paul Neyron
		Prince Camille de Rohan
		Ulrich Brunner
		RUBBER PLANT. See <i>Ficus Elastica</i>
		S
SAGE. See <i>Salvia Officinalis</i>		
SAGO PALM. See <i>Cycas Revoluta</i>		SANSEVIERA 192
SAGO TREE, JAMAICA. See <i>Zamia Integrifolia</i>		S. Cylindrica
ST. BERNARD'S LILY. See <i>Anthericum Liliago</i>		S. Guineensis
ST. BRUNO'S LILY. See <i>Anthericum Liliastrum</i>		S. Longiflora
SALVIA 74		S. Zeylanica
S. Officinalis		SAXIFRAGA 193
S. Patens		S. Cotyledon
S. P. Alba		S. Crassifolia
S. Splendens		S. Geranioides
S. S. Bruantii		S. Longifolia
		S. Nepalensis
		S. Peltata
		S. Purpurascens
		S. Pyramidalis
		S. Sarmentosa Tricolor
		S. Virginiensis Flore-pleno

PAGE	PAGE
SCREW PINE. See <i>Pandanus</i>	
SEAFORTHIA.....	130
<i>S. Elegans</i>	
SELAGINELLAS.....	194
<i>S. Kraussiana</i>	
SHRUBS.....	131
<i>Abutilon</i>	
<i>Acalypha</i>	
<i>Aloysia</i>	
<i>Aralia</i>	
<i>Ardisia</i>	
<i>Azaleas</i>	
<i>Daphne</i>	
<i>Gardenia</i>	
<i>Grevillea</i>	
<i>Hibiscus</i>	
<i>Hoya</i>	
<i>Hydrangeas</i>	
<i>Jasminum</i>	
<i>Olea</i>	
<i>Oleander</i>	
<i>Oranges</i>	
<i>Roses</i>	
SOLANUM	178
<i>Lycopersicum Esculentum</i>	
<i>Solanum Jasminoides</i>	
<i>S. Melongena</i>	
SOLANUM.....	
SPREKELIAS. See <i>Amaryllis</i>	
STAG HORN FERN. See <i>Platycerium</i>	
STAR OF BETHLEHEM. See <i>Ornithogalum Umbellatum</i>	
STRAWBERRY GERANIUM. See <i>Saxifraga Sarmentosa Tricolor</i>	
STREPTOSOLEN JAMESONII. See <i>Browallia Jamesonii</i>	
SUCCESSION, PLANTING FOR. See <i>For Succession</i>	
SWORD FERN. See <i>Nephrolepis Exaltata</i>	
T	
THATCH LEAF PALM. See <i>Kentia Forsteriana</i>	
TOBACCO. See <i>Nicotiana</i>	
TOMATO. See <i>Solanum</i>	
TOOTHWORT. See <i>Plumbago</i>	
TRADESCANTIA	181
<i>T. Discolor</i>	
U	
UMBRELLA PALM. See <i>Cyperus Alternifolius</i>	
UMBRELLA PLANT. See <i>Saxifraga Peltata</i>	
V	
VALLOTAS. See <i>Amaryllis</i>	
VERBENA, FRAGRANT. See <i>Aloysia</i>	
VERBENA, LEMON. See <i>Aloysia</i>	
VINCA.....	182
<i>V. Alba</i>	
<i>V. Major</i>	
<i>V. Minor</i>	
<i>V. Rosea</i>	
VINES, CREEPERS AND BASKET PLANTS.....	171
<i>Clematis</i>	
<i>Ivy</i>	
<i>Lysimachia</i>	
W	
VINES, CREEPERS AND BASKET PLANTS.....	203
<i>Manettia</i>	
<i>Mimulus</i>	
<i>Othonna</i>	
<i>Solanum</i>	
<i>Tradescantia</i>	
<i>Vinca</i>	
VIOLETS.....	76
<i>English Violets</i>	
<i>Marie Louise Violets</i>	
<i>Neapolitan Violets</i>	
<i>Russian Violets</i>	
<i>Viola Odorata</i>	
VIRGIN'S BOWER. See <i>Clematis</i>	

VV

PAGE	PAGE
WANDERING JEW. See <i>Tradescantia</i>	WILD DATE. See <i>Phænix Sylvesteris</i>
WAX PLANT. See <i>Hoya</i>	WINE PALM, EAST INDIAN. See <i>Phænix Sylvesteris</i>
WHITE ARUM. See <i>Calla</i>	
WHITE TRUMPET LILY. See <i>Lilium Longiflorum</i>	WOOD SORREL. See <i>Oxalis Acetosella</i>

Z

ZAMIA	195	ZEBRA PLANT. See <i>Maranta Zebrina</i>
<i>Z. Furfuracea</i>		ZEPHYRANTHES. See <i>Amayrillis</i>
<i>Z. Integrifolia</i>		
<i>Z. Lindenii</i>		ZONAL. See <i>Geranium</i>

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